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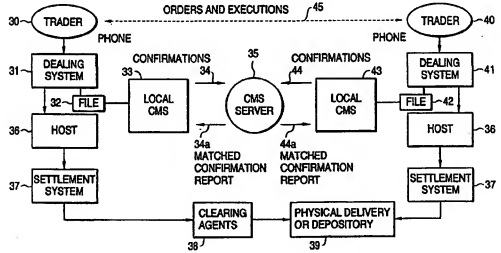

(57) Abstract

The present invention, an embodiment of which is known as Crossmar Matching Service (CMS) (35) provides a method and system for matching order routing of securities and other instruments types, and for matching other transaction information on a post-execution basis, such as during the confirmation and settlement phases. The functions of the present invention occur on the post-execution side of the value chain and include matching the financials, matching the delivery instructions, confirming those deliveries and instructions. The method and system of the present invention thus further provide a confirmation and settlement for these functions.

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METHOD AND SYSTEM FOR CONFIRMATION AND SETTLEMENT FOR FINANCIAL TRANSACTIONS MATCHING

This application is a Continuation-in-Part (CIP) of applicant's currently pending application titled METHOD AND APPARATUS FOR TRADING SECURITIES ELECTRONICALLY (Docket No. C0463/093798) having U.S. Serial No. 08/700,836 filed August 21, 1996.

FIELD OF THE INVENTION

The present invention relates generally to a method and system for automatically matching financial transactions that are electronically traded among various user groups, and in particular to a method and device for automatically matching securities electronically traded among brokers.

CROSS-REFERENCE TO RELATED APPLICATION

Applicant's pending application titled MESSAGE AGENT SERVER (Docket No. C0463/163161) having U.S. Serial No. 60/050,422 filed June 5, 1997, and applicant's pending application titled METHOD AND SYSTEM FOR PERFORMING AUTOMATED FINANCIAL TRANSACTIONS INVOLVING FOREIGN CURRENCIES (Docket No. C0463/093795) having U.S. Serial No. 08/727,786 filed October 8, 1996, are hereby incorporated by reference.

BACKGROUND

Sophisticated investors are today uncovering greater long-term returns by investing crossborder. However, as the volume and complexity of global investing increases, delays and errors in processing trades and settlement instructions have accelerated market participants' desire to search for a more automated, efficient approach.

Language barriers, time differences and physical distance combined with short settlement periods increase the risks for all security trading participants.

While the current suite of electronic trading products have reduced the risk for the investor and the executing broker by automating the confirmation process, none of the products has provided an efficient method for routing settlement instructions to agent banks. Banks are forced to rely on a variety of manual methods for receiving settlement instructions from their counterparties. These settlement instructions are often received by the bank after the trade is supposed to settle and often contain multiple errors. Banks are required to employ large staffs to chase down settlement instructions, repair messages, and to manually match settlement instructions with executing brokers' instructions prior to settlement taking place.

An example of the way the underlying transactions occur for which matching is typically needed is as follows. Company A, Hong Kong, places an order with Company B, Philippines to purchase 1,000 shares of Securities C. To place the order, the originating broker at Company A telephones and faxes to Company B. Upon receiving the order, an executing broker at Company B executes the trade at the Makati Stock Exchange on Company A's behalf. Typically at the end of the day, Company B notifies Company A, Hong Kong that the trade has been successfully executed. The notification is followed by a fax transmission to the brokers' custodian and clearing agent where the actual fund and security transfer will take place. The entire process could take somewhere between a day and up to several days.

As evident from the above example, this process flows though several stages and tends to be time consuming and error prone. This problem is particularly acute when trading across wide time zone gaps, leaving tight datelines for settling trades and correcting any errors. For institutional money managers, brokers and banks, carrying unconfirmed trades on their books increases risk. Thus, delays in achieving confirmation are costly to financial institutions reducing the profit margin on these transactions.

Systems exist that permit securities traders to communicate electronically with each other. Each of these systems require the investor's clearing agent to manually pre-match a settlement instruction with the executing broker. Currently,

there are no products that can effectively automate the trading confirmation process between brokers.

The Depository Trust Company ("DTC") of New York, New York, uses an ID system in the United States between institutional investors and broker dealers to confirm transactions for DTC eligible U.S. securities. This system does not operate on a central matching basis; institutions must wait for broker dealers to submit trade data for which they must provide an affirmation. For non-DTC eligible securities, the institution must send a message to its clearing agent notifying them of a securities transaction. The institution's clearing agent must manually pre-match the settlement instruction with the executing broker instructions before the actual settlement can occur.

Thomson Financial of Skokie, Illinois, provides the OASYS Global service, which also allows institutions and brokers to confirm transactions. OASYS Global, however, does not offer centralized matching and does not automatically generate settlement instructions and route them over the Society for Worldwide Interbank Financial Telecommunication (SWIFT) Financial Network. Additionally, OASYS Global message formats are not based on the SWIFT standards.

The London Stock Exchange SEQUAL product offers a centralized broker to broker matching facility; however, SEQUAL does not generate settlement instructions to clearing agents and its message structures are not based on SWIFT formats.

U.S. Patent No. 5,497,317 discloses a device and method for improving the speed and reliability of security trade settlements, in which trade settlement information is communicated securely between institutional investors, brokers, and custodians. As defined in this patent, institutional investors consist of retirement and pension funds, mutual fund companies, investment advisors, insurance companies and other investors, which manage and trade for two or more accounts. Custodian is defined as a bank, security depository or other settlement agent. Delivery instructions are stored in database in a format compatible with both

Industry Users Group (IUG) and Industry Standardization for Institutional Trade Communication (ISITC) standards. Communication links exist between security trading participants and a central database (which actually consists of two separate databases), and between the participants themselves for exchanging messages (e.g., electronic mail not relating to settlement of a particular trade). Communications links between institutions and brokers are utilized immediately after trade execution to settle the trade. Similarly, trade settlement communications links exist between institutions and custodians. Brokers and custodians input delivery instructions to a delivery database along respective lines. The delivery instructions include information such as the country of origin of the security, the security type, and clearing method details. As delivery instruction sets are added to or modified on the delivery database, alert messages are generated by a central database for communication to the other brokers and custodians; these alert messages inform the brokers and custodians of the delivery instruction changes. The central database includes a wire or wireless transceiver for receiving information for storage and retrieval requests, and for transmitting alerts and retrieved information. Account information includes a custodian identifier for retrieval from the delivery database of the delivery instructions corresponding to the specified custodian identifier. Account information and the retrieved, specified custodian delivery instructions are combined for storage in an account database. A broker internal account number (BIA)/account identifier table is stored in the account database for use by the central database to generate alert messages for transmission to brokers informing them of changes in account information for BIAs cross-referenced to the account information. The changes may be to either the custodian delivery instruction portion or the account portion of account information. Information retrieved from the central database for use in settling security trades is very accurate since each participant enters information on databases pertaining to it and since alert messages permit affected participants to review changes made to the databases in real time.

In this system, storing custodian delivery instructions in both the delivery database and the account database serves several functions. First, it prevents custodians from making changes to the settlement of securities traded for an institutions' account without the institutions' consent. Second, it permits more rapid retrieval and transmission of security settlement information from the institutions to the brokers since only a single database needs to be accessed.

This system, however, does not provide for direct broker to broker confirmation, in which a secure communication is maintained between the brokers. Furthermore, this system is not compatible with standard message formats in the financial network.

The challenges in crossborder trading are extremely acute. The time difference between counterparties can be as great as 12 hours. Fail rates in certain markets are as high as 30%. Existing processes -- laden with outdated technology, a lack of industry standards, and insufficient infrastructure -- lead to such errors and their resulting high costs. The market is demanding the following: accommodation of the breadth, depth, and complexity of transaction activity; facilitation of execution and settlement with multiple counterparties; accomplishment of straight-through processing of transactions; evolution of "legacy" systems into "open, interoperability" systems; and leveraging of advanced technology to handle a greater share of all such transactions.

It is thus clear that a system is needed for automating matching of transactions among brokers and custodians, especially for use in conjunction with the SWIFT network or other financial networks.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a system and method for automatically matching a user's transaction request with another user's match confirmation in a manner compatible with existing financial network standards.

It is a further object of the present invention to provide a method for a user to view and select transactions to match.

It is a further object of the present invention to provide a method for a user to view both the user's own transaction request and the other user's match confirmation.

It is a further object of the present invention to provide the user with an option to view differences between the user's transaction request and another user's match confirmation.

It is a further object of the present invention to provide a method for matching a user's transaction request and another user's match confirmation using a quick confirmation.

The present invention, an embodiment of which is known as Crossmar Matching Service (CMS) provides a method and system for matching order routing of securities and other instrument types, and for matching other transaction information on a post-execution basis, such as during the confirmation and settlement phase. The functions of the present invention occur on the post-execution side of the value chain and include matching the financials, matching the delivery instructions, and confirming those deliveries and instructions. The method and system of the present invention thus further provide a confirmation and settlement system for these functions.

To achieve the stated and other objects of the present invention, as embodied and described below, the invention includes a method of matching a plurality of predetermined financial transactions for a plurality of users, wherein data for the plurality of predetermined financial transactions are categorized into at least one field of a plurality of fields such that data is contained in a total number of fields, and wherein the plurality of users includes at least a first user and at least a second user, comprising: initiating a communication link between the first user and a server; initiating a communication link between the second user and the server; the first user selecting at least one predetermined financial transaction; the second user selecting at least one predetermined financial transaction; selecting a number of fields for obtaining matching, wherein the number of fields is not greater than the total number of fields; and automatically identifying matching

pairs of predetermined financial transactions, wherein each matching pair includes a first pair half comprising a first predetermined financial transaction for the first user, and a second pair half comprising a second predetermined financial transaction for the second user, and wherein the first pair half and the second pair half are within the selected number of fields.

To achieve the stated and other objects of the present invention, as embodied and described below, the invention further includes a method for a first user to identify matching pairs of predetermined financial transactions for the first user and a second user, comprising: the first user transmitting at least one set of data for at least one predetermined financial transaction for the first user from a first terminal to a server, wherein each predetermined financial transaction for the first user has a corresponding set of data and a corresponding set of summary data; the first terminal automatically displaying a first combined summary set, wherein the first combined summary set comprises a combination of each of the corresponding sets of summary data for each predetermined financial transaction for the first user; the first terminal automatically providing an option to display the corresponding set of data for a selected predetermined financial transaction; the second user transmitting a second set of data for at least one predetermined financial transaction for the second user from a second terminal to the server, wherein each predetermined financial transaction for the second user has a corresponding set of data and a corresponding set of summary data; the server automatically transmitting to the first terminal the second set of data for at least one predetermined financial transaction for the second user; the first terminal automatically displaying a second combined summary set, wherein the second combined summary set comprises a combination of the first combined summary set and a combination of each of the corresponding sets of summary data for each predetermined financial transaction for the second user; the first terminal automatically providing an option to display the corresponding set of data for a selected predetermined financial transaction for the second user, wherein the first user may toggle between the display of the corresponding set of data for the

selected predetermined financial transaction for the first user and the display of the corresponding set of data for the selected predetermined financial transaction for the second user; the first terminal automatically providing an option to select at least two summary sets from the combined set of summary sets for matching predetermined financial transactions; the first terminal automatically providing an option to select to identify automatically matching pairs of predetermined financial transactions, wherein each matching pair includes a first pair half comprising at least one predetermined financial transaction for the first user having a first pair half data set, and a second pair half comprising at least one predetermined financial transaction for the second user having a second pair half data set, the first pair half and the second pair half matched by matching the first pair half data set and the second pair half data set; selecting the option to select to identify automatically matching pairs of predetermined financial transactions; and automatically matching pairs of predetermined financial transactions.

Additional objects, advantages and novel features of the invention will be set forth in part in the description that follows, and in part will become more apparent to those skilled in the art upon examination of the following or upon learning by practice of the invention.

BRIEF DESCRIPTION OF THE FIGURES

In the figures:

FIG. 1 depicts the overall system elements, including an example base system, for an embodiment of the present invention;

FIG. 2A is a flow diagram of an embodiment of the present invention, including indication of interaction with an example base system;

FIG. 2B shows a workflow diagram for an embodiment of the present invention;

FIG. 2C presents a flow diagram for a nonautomated process for foreign exchange trading;

FIG. 2D shows a flow diagram of an embodiment of the present invention, including indication of interaction and use of trading affirmation;

FIG. 2E is a flow diagram of an embodiment of the present invention, including indication of interaction with an example base system and use of trading allocations and MT305s;

FIG. 3 presents a flow diagram of the overall process of crossborder trading and settlement for an embodiment of the present invention;

FIG. 4 shows the CMS template for an embodiment of the present invention;

FIG. 5 depicts the message flow according to the method of the present invention for performing trade confirmation;

FIG. 6 depicts an embodiment of the system of the present invention;

FIG. 7 depicts the flow and type of messages sent to and from the system for an embodiment of the present invention;

FIG. 8 shows the file menu commands for a graphical user interface (GUI) for an embodiment of the present invention;

FIG. 8A is a representation of a connect screen used in the originating broker's computer in the system of an embodiment of the present invention;

FIG. 9 represents a main screen with the "ours" window selected for a GUI of an embodiment of the present invention;

FIG. 10 contains a flow diagram the functions of the main screen for a GUI of an embodiment of the present invention;

FIG. 10A depicts the change password screen used in the GUI of an embodiment of the present invention;

FIG. 11 shows a flow diagram of the functions of the "ours" panel contained in the main screen for a GUI of an embodiment of the present invention;

FIG. 12 presents the charges subpanel contained in the main screen for a GUI of an embodiment of the present invention;

FIG. 13 is the charges popup window for the charges subpanel for a GUI of an embodiment of the present invention;

FIG. 14 presents a summary/report screen, which displays transaction information, for a GUI of an embodiment of the present invention;

FIG. 15 provides the differences window for a GUI of an embodiment of the present invention;

FIG. 16 contains a flow diagram of the functions of the summary/report screen for a GUI of an embodiment of the present invention;

FIG. 17 depicts the selection criteria screen accessed through the main menu for a GUI of an embodiment of the present invention;

FIG. 18 depicts an example of the trade blotter used in the GUI of an embodiment of the present invention;

FIG. 19 contains information on various elements of the example trade blotter of FIG. 18;

FIG. 20 shows the import file popup window for a GUI for an embodiment of the present invention;

FIG. 21 is the match popup window for a GUI for an embodiment of the present invention;

FIG. 22 contains the "theirs" panel used in quick matching a confirmation for a GUI for an embodiment of the present invention;

FIG. 23 presents the quick confirm popup window for a GUI for an embodiment of the present invention;

FIG. 24 is the trade history dialogue box for a GUI for an embodiment of the present invention;

FIG. 25 shows the product pulldown menu for a GUI for an embodiment of the present invention;

FIG. 26 presents the view pulldown menu for a GUI of an embodiment of the present invention;

FIG. 27A contains the settlement delivery instructions manager window showing the primary subwindow for a GUI of an embodiment of the present invention;

FIG. 27B contains the settlement delivery instructions manager window showing the additional fees subwindow for a GUI of an embodiment of the present invention;

FIG. 27C contains the settlement delivery instructions manager window showing the miscellaneous instructions subwindow for a GUI of an embodiment of the present invention;

FIG. 27D contains the settlement delivery instructions manager window showing the confirm details subwindow for a GUI of an embodiment of the present invention;

FIG. 28A contains an overview of a first scenario for trade settlement for an embodiment of the present invention;

FIG. 28B is an overview of a second scenario for trade settlement for an embodiment of the present invention;

FIG. 28C is a table for the case of a settlement message arriving after a confirm message for an embodiment of the present invention;

FIG. 28D shows a table for the case of a confirm message arriving after a settlement message for an embodiment of the present invention.

FIG. 29 presents an example of a standing instructions screen for a GUI of an embodiment of the present invention; and

FIG. 30 shows a flow diagram of the functions of the standing instructions manager window for an embodiment of the present invention.

DETAILED DESCRIPTION

The present invention, an embodiment of which is referred to as Crossmar Matching Services (CMS), provides a method and system for matching order routing of securities and other instrument types, and for matching other transaction information on a post-execution basis during the confirmation and settlement phase. The functions of the present invention occur both on the pre-execution and post-execution sides of the value chain and include matching the financials, matching the delivery instructions, and confirming those deliveries and

instructions. The method and system of the present invention thus further provide a confirmation and settlement system for these functions.

The present invention's features of matching order routing information and other matching functions is intended to function primarily in conjunction with an example base system that provides the platform for the underlying transaction to be matched.

An example of a base system, for which the present invention provides matching order routing and other transaction information, is described in applicants' copending application titled METHOD AND APPARATUS FOR TRADING SECURITIES ELECTRONICALLY having U.S. Serial No. 08/700,836 filed August 21, 1996, and is referred to as "Global Clear". The functions of Global Clear will be described in conjunction with the functions of the present invention. It will be appreciated by those skilled in the art that the matching system of the present invention is likewise applicable to other financial transactions and other trading systems that necessitate a matching method and system, as well as other activities amenable to matching (e.g., documentation matching).

An embodiment of the present invention, which operates in conjunction with a system and method for, among other things, direct broker to broker trading, automatically matches an investor's security order with an executing broker's confirmation and automatically generates and routes via a network, such as the Society for Worldwide Interbank Financial Telecommunication (SWIFT) Financial Network, a settlement instruction to the investor's clearing agent. By allowing securities participants to match orders to executions on trade date and by automatically generating pre-matched settlement instructions to clearing agents on trade date, the system increases the accuracy, reduces the cost, reduces the inherent financial risk, and increases the rate of settlement for all security participants.

In addition to operation in conjunction with the exemplary base system, an embodiment of the present invention includes use of a system and method for facilitating electronic message transmission among the various components of the

present invention and other connected components, such as other applications and networks. In an embodiment of the present invention, the system and method for facilitating electronic message transmission is that described in the applicants' pending U.S. patent application titled MESSAGE AGENT SERVER (Docket No. C0463/163161) having U.S. Serial No. 60/050,422 filed June 5, 1997. The system and method of the MESSAGE AGENT SERVER are particularly advantageous for use in the transmission of electronic messages among financial institution networks and application programs and the SWIFT network.

An embodiment of the present invention includes the following features: 1) intra-day trade confirmation -- trade terms and delivery instructions (including netting) for all transactions are viewable, verifiable, and confirmable on the trade date; 2) auto-match -- all transactions are automatically matched on key financial criteria, and exceptions are reported; 3) quick error identification and auto correction -- the cause of all mismatched trades is quickly identifiable, and errors are automatically correctable; 4) applicable message formats, including SWIFT ETC message formats -- all messages are designed to be compatible with the latest industry supported SWIFT ETC message formats; 5) multi-currency and multi-security type -- the system supports equities, fixed income traded instruments, options, and other derivatives, and supports all International Standards Organization (ISO) recognized currencies; and derivatives thereof, as well as other activities amenable to matching, such as the requisite supporting documentation that often accompanies such financial transactions; 6) automated or manual entry -- the system accommodates SWIFT, proprietary file transfer, and manual trade entry input; 7) trade status -- the categorization of trade status provides a quick and easy method for highlighting and sorting trades and is configurable to provide a spotlight on exceptions and errors; 8) reports -- a comprehensive listing of positions by trade status, security type, counterparty, entity, trade date, and settlement date is included; 9) audit trail -- on-line tracking of every event for each transaction and detailed by user, date, and time; 10) security -- all messages are authenticated and encrypted, and all users undergo an authorization check before

they are allowed to proceed onto the system; 11) standard 32 bit operating system such as Windows NT™ support -- CMS is designed to operate in Windows NT™ environments; and 12) multi-site access -- system access is available from multiple locations.

FIG. 1 depicts an embodiment of the overall system of the present invention, along with the components of the base system example, Global Clear, which includes three tiers. Tier 1 1 includes the users and their terminals, such as personal computers, Tier 2 2 includes a server, and Tier 3 3 includes a database server. These terminal can include standard features such as a monitor or other visual display device, or other devices for communicating information to the users, such as speakers for providing sound information.

The hardware and software for Tier 1 1 includes a client application and a graphical user interface (GUI) loaded onto users' personal computers 5, 6. The users, the originating broker 10, the originating broker's clearing agent 11, the executing broker 12, and the executing broker's clearing agent 13, are connected to the server 15 via these personal computers 5, 6.

The personal computers 5, 6, which may be configured by the users to automatically dial the server 15 at pre-defined intervals, use multiple operating systems such as Windows NT™. The personal computers 5, 6 support multiple baud rates and support multiple connectivity types, including dial-up public data networks 5, internet service networks, local-area network connections, LAN connections, and other remote connections.

The originating broker 10 runs the software's client software and GUI on a personal computer 5 to perform a function to be matched, such as to develop an order to either buy or sell securities 16.

This order 16 is either saved on the personal computer 10 for later transmittal or the originating broker connects to the server 15 via a modem, a transport control protocol/internet protocol (TCP/IP), via the SWIFT FIN network, or via other remote connection, and sends the order 17 to the server 15.

Tier 2 2 comprises the server 15, a business object server having an operating system (e.g., Windows NT™), a programming language (e.g., Visual C++), and middleware (e.g., Entera version 3.1, produced by Borland International Inc., of Scotts Valley, California). The server 15 receives the order 17, records what time the order arrived and assigns it a reference number.

The server 15 connects to the data access database 20 in Tier 3 3 via an open client connection 21. The data access database 20 holds the standing delivery instructions and other information about individual brokers.

The server 15 matches the originating broker's order 17 with the broker's standing delivery instructions 20 stored in the standing delivery instructions database 20. The standing delivery instructions are used by the clearing agents 11, 13 to settle the trade. Through actions described in detail below, the brokers 10 and 12 can quickly and accurately make permanent changes to the standing delivery instructions or tag a temporary standing delivery instruction to a specific order.

The originating broker's order 17, with the delivery instructions 21, is stored in the server 15 until the executing broker 12 logs into the server 15.

The executing broker 12 connects 22 to the server 15 via a modem, TCP/IP, via the SWIFT FIN network, or via other remote connection on a personal computer 6, which in this case is connected in a local area network, and downloads the originating broker's order 23.

The originating broker 10 may also contact the executing broker 12 directly with a buy or sell order 25 over a system of telephones and/or fax machines 26.

The executing broker 12 fulfills the originating broker's orders to either buy or sell securities, and then sends a confirmation message 23 to the server 15.

The server 15 matches the executing broker's confirmation 23 with the originating broker's original order 17. If the originating broker contacted the executing broker 12 directly 25 via the telephone and/or fax machine 26, the workstation automatically writes an order to match the executing broker's 12 confirmation 23 under direction of the broker 12.

If the executing broker's confirmation 23 does not match the originating broker's original order 17, the server 15 allows the originating broker 10 to visually compare and manually match the originating broker's order 17 to the executing broker's confirmation 23.

If the executing broker's and the originating broker's messages match, the system develops a message notification that the transaction was completed. This message is time stamped as to when the transaction was matched and is generated automatically via the SWIFT network or stored until the originating broker's clearing agent 11 and/or the executing broker's clearing agent 13 log into the server 15.

When the clearing agents 11, 13 log into the server 15, they receive message notifications 27, 28 of the transaction. When the notification is downloaded by the clearing agents 11, 13, the server 15 applies a time stamp as to the time of the download.

The message notification of the completed transaction is also sent 23 to the executing broker 12. By attaching dates and tracking the flow of messages, the system allows secured trading and tracing trading activities such as the changes, additions, or deletions, made to the data.

In an embodiment of the present invention, transactions are entered, maintained, deleted, verified, and confirmed within a Windows NT™-formatted, user-friendly interface. Counterparties can either send in their side of the execution for auto-matching or affirm the trade by manual selection. The status of every transaction is monitored from the workstation, and exceptions are corrected on-line and in real time. An embodiment of the present invention includes import/export capabilities to internal systems, which promotes straight-through processing and eliminates redundant re-keying. Through the use of a generalized message translating capability, such as the MESSAGE AGENT SERVER, in an embodiment of the present invention, the user's proprietary message is parsed and reformatted into a transferable format for the network used, such as a SWIFT ETC

standard message, and transmitted to their counterparties through the network, such as the SWIFT FIN network.

FIG. 2A is a flow diagram of an embodiment of the present invention, including indication of interaction with an example base system. In FIG. 2A, a client trader 30 uses a dealing system 31 to prepare, for example, a buy order for securities. Information regarding the order is transmitted to a file 32 for use for matching purposes. This file 32 is then used by the present invention, such as a locally run CMS 33, to transmit confirmations 34 to the CMS server 35, and to receive from the CMS server 35 a matched confirmation report 34a. The request prepared in the dealing system 31 is also transmitted to the trading host system 36 and then to a settlement system 37. Clearing agents 38 then assure physical delivery or depository 39 of the elements of the request.

As shown in FIG. 2A, the counterparty trader 40 also uses a dealing system 41 to prepare requests. Information regarding activities in this dealing system 41 is also sent to a file 42 for use for matching purposes by, for example, locally run CMS 43. The counterparty trader 40 also transmits confirmations 44 and receives matched confirmation reports 46 from the CMS server 35. Orders and executions may also be performed outside the system, such as through phones 45.

For example, the counterparty trader 40 could make a corresponding sell order to the client trader 30 buy order. Confirmations 34, 44 from the client trader 30 and the counterparty trader 40, respectively, would then be sent to the CMS server 35. The trade would be consummated through the host 36, the settlement system 37, clearing agents 38, and physical delivery or depository 39. After consummation of the trade, matched confirmation reports 34a, 44a would be sent to the client trader 30 and the counterparty trader 40, respectively.

FIG. 2B shows a workflow diagram for an embodiment of the present invention. An embodiment of the present invention includes three levels of work interaction: the bank/broker level 50, the CMS level 51, and the customer/counterparty 52. At the bank/broker level 50, an embodiment of the present invention does not support use of fax transmissions 50a. Embodiments of

the present invention do support use of telex 50b, SWIFT 50c, and ASCII files 50d. The information from telex 50b, SWIFT 50c, and ASCII file 50d is fed to the CMS sender 51a. For example, a foreign exchange option is sent to the sender 51a. Under the foreign exchange heading, the text message status changes to "unconfirmed." Once the counterparty affirms the confirmation, the text status changes to "confirmed."

As shown in FIG. 2B, at the customer/counterparty level 52, a user at a workstation 52a is able to transmit information to the CMS receiver 51b. The receiver 51b is able to read and/or print, for example, a foreign exchange message on CMS. The receiver may agree with the text, producing a "confirmed" message, or disagree with the text and leave the action "unconfirmed" with a free-format message to the sender. CMS automatically sorts the activities, such as foreign exchange, according to header type. Thus, as shown in FIG. 2B, a decision point is whether the customer/counterparty 52 agrees with the confirmation 53. If yes 54, the confirmation is "confirm," and the customer/counterparty 52 makes a printout as part of the deal record and audit trail. If the result of the decision point 53 is not to confirm 55, the system advises the sender of confirmation error. Confirmation status remains "unconfirmed" until either the bank/broker 50 "cancels" or amends it, or the customer/counterparty 52 "confirms."

FIG. 2C presents a flow diagram for a nonautomated process for foreign exchange trading. As shown in FIG. 2C, with systems that don't include the method and system of the present invention, the process of trading and other activities is the same as that shown in FIG. 2A, but matching must be performed using, for example, a client telex fax 60 and a counterparty telex fax 61. Confirmations 60a and affirmations 60b are transmitted form the client telex fax 60 to the counterparty telex fax 61, and confirmations 61a and affirmations 61b are transmitted from the counterparty telex fax 61 to the client telex fax 60. Thus trades cannot be automatically matched or simply matched using the method and system of the present invention.

FIG. 2D shows a flow diagram of an embodiment of the present invention, including indication of interaction and use of trading affirmation. An embodiment of the present invention with affirmation includes a similar process to that shown in FIG. 2A; however, an additional step of affirmation 34b is transmitted from the client local CMS system 33 to the CMS server 35. In addition, in an embodiment of the present invention, banks act as the clearing agents and the counterparty local CMS system 63 utilizes a bank information network, such as the SWIFT network.

FIG. 2E is a flow diagram of an embodiment of the present invention, including indication of interaction with an example base system and use of trading allocations and MT304s. An embodiment of the present invention with trading allocations and MT304s includes a similar process to that shown in FIG. 2D. However, both the client local CMS system 65 and the counterparty local CMS system 63 utilize, or may or may not utilize, a banking network, such as the SWIFT network. Block confirmations 65a and allocations 65b are transmitted from the client local CMS system 65 to the CMS server 35, and confirmations 65c and matched reports 65d are transmitted from the CMS server 35 to the client local CMS system 65. Similarly, block confirmations 63a and allocations 63b are transmitted from the counterparty local CMS system 63 to the CMS server 35, and confirmations 63c and matched reports 63d are transmitted from the CMS server 35 to the counterparty local CMS system 63. In addition, an MT304 67 is used via the SWIFT network to communicate information from the CMS server 35 to the clearing agent banks 38.

FIG. 3 presents a flow diagram of the overall process of crossborder trading and settlement for an embodiment of the present invention using the SWIFT network. As shown in FIG. 3, first an order via an MT502 message is made between an investment manager crossborder investor 70 and a broker 71. The order is then transmitted from the broker 71 to a local broker 72 via an MT502 message. The local broker 72 then places an order with a stock exchange or market maker. Information indicating that the order is filled is then transmitted from the stock exchange or market maker 73 to the local broker 72. Trade

confirmation is transmitted back and forth from the local broker 72 and the broker 71 via an MT518. The broker 71 then transmits an execution notice via an MT513 to the investment manager crossborder investor 70, allocations via MT514s are transmitted from the investment manager C/B investor 70 to the broker 71, and trade confirmation via an MT515 is sent from the broker 71 to the investment manager crossborder investor 70.

As shown in FIG. 3, a settlement security instruction via an MT52x is then sent from the broker 71 to the global clearing agent 74, and securities settlement instructions via MT52x messages are sent from the global clearing agent 74 to the local clearing agent 75, from the investment manager crossborder investor 70 to the global custodian, and from the global custodian 76 to the local sub custodian 77. Next, an FX block/confirm message is sent via an MT300/MT305 from the investment manager crossborder investor to the FX trader 78. The FX trader 78 sends an FX confirm message via an MT300/MT305 to the investment manager crossborder investor 70. The investment manager crossborder investor 70 sends an FX allocation message via an MT303 to the FX trader 78. The FX trader 78 then sends an FX confirm message via an MT300 to the investment manager crossborder investor 70.

Next, as shown in FIG. 3, the investment manager crossborder investor 70 sends a secure funds/credit Demand Deposit Account (DDA) to local funds management 79. An FX settlement instruction message via an MT304 is then sent from the investment manager crossborder investor 70 to the global custodian 76. An MT200 message is sent from the global custodian 76 to the local sub custodian 77. The local broker 72 then performs physical delivery or local depository 80; the local clearing agent 75 performs physical delivery or local depository 80; and the local sub custodian 77 performs physical delivery or local depository.

As further shown in FIG. 3, the local sub custodian 77 then transmits a settlement securities advice via an MT53x message to the global custodian 76. The local sub custodian 77 also provides portfolio advice/reporting to the global custodian 76. The global custodian 76 provides portfolio advice/reporting to the

investment manager crossborder investor 70. The investment manager crossborder investor 70 provides portfolio advice/reporting to the local funds management 79. The local clearing agent 75 provides portfolio advice/reporting to the global clearing agent 74. The global clearing agent 74 provides portfolio advice/reporting to the broker 70. This portfolio advice/reporting includes a securities holding statement via an MT571, a securities transaction statement via an MT572, and a cash statement via an MT950.

FIG. 4 shows the SWIFT/CMS template according to an embodiment of the present invention. FIG. 3B presents information on the template for a SWIFT MT305 message 85. Information from the MT305 message 85 is transferred to the possible display on CMS 86 into a display area 86a of the actual SWIFT message as received from the FX dealer. The display on CMS 86 also includes a template side 86b, which appears to the left of the SWIFT message side 86a, as shown in FIG. 3B. Summary information 86c is also included at the top of the display on CMS 86.

Referring to FIG. 5, an embodiment of the present invention functions in conjunction with a number of activities that occur within the base system, such as Global Clear. With an embodiment of the present invention, an originating broker 100 transmits a message to an executing broker 101 to buy or sell securities in the SWIFT MT502 format. The message is transmitted from a user's workstation via the public data network (PDN) and is stored on a server 102. The server 102 stores the message until the executing broker 101 manually connects to the server 102 and downloads the data. The data is then presented to the regional broker 101 on a workstation in a combined MT502/MT518 message format. After the order has been executed on the executing exchange, the user 101 enters the required data and transmits a SWIFT MT518 message to the server 102. The server 102 then matches the executing broker's MT518 message with the originating broker's MT502 message and constructs an MT52x message. The SWIFT MT52x message is then sent to the originating broker's clearing agent 103, and if necessary, to the originating broker's local clearing agent 104. The executing broker 101 also

receives a copy of the MT52x message. The originating broker 100 also receives the MT518 message. The originating broker 100 is also able to enter settlement data on the MT502 order message.

SWIFT formats, as used in an embodiment of the present invention, will now be further described. In an embodiment of the present invention, an order message in SWIFT format is an MT502 message. An order side confirmation message in SWIFT format is designated as an MT518. A receive against payment message in SWIFT format is designated as an MT521 and a deliver against payment message is designated as an MT523. A receive free message in SWIFT format is designated as an MT520 and a deliver free message is designated as an MT522.

While the present invention has been described with respect to the existing SWIFT formats, as SWIFT is in the process of modifying these formats at the time of filing this application, it should be understood that the present invention applies to the new formats as well.

An example of a transaction according to an embodiment of the present invention operating in conjunction with an example base system, such as Global Clear, will now be described with references to the accompanying figures.

FIG. 5 may also be further used to depict an example of a transaction processed and matched in accordance with an embodiment of the present invention. In this example, within the example base system, company A 100, in Hong Kong, places an order with company B 101, in the Philippines to purchase 1,000 shares of XYZ Securities. Company A 100 sends an MT502 order to buy to the server 102. Company B 101 retrieves the message and, after the order has been executed on the Makati Exchange, sends an MT518 message to the server 102. In an embodiment of the present invention, a match is made of the originating broker's MT502 message with the executing broker's MT518 message, and an MT521 message is automatically constructed using the data elements from the MT502 and the MT518. The server 102 automatically forwards the message to company A's clearing agent 103, financial institution C, in Hong Kong and to

company A's local clearing agent 104 in the Philippines. Company B 101 receives an MT523 message. Company A 100 also receives the MT518 message.

An overview of the system architecture of the example base system and an embodiment of the present invention will now be presented.

FIG. 6 depicts the architecture of the exemplary base system for an embodiment of the present invention. Each broker has an identical workstation 200. Each of these workstations can connect to the server 102 either via modem or local area network (LAN). The server 102 is connected to the database 106. The workstations 200 execute an application program that presents a graphical user interface (GUI) to the system to the brokers.

For use in conjunction with an embodiment of the present invention, each workstation 200 consists of a terminal, such as a personal computer (PC). The PC is programmed to present a GUI, by which the broker can connect to the server 102 and format and send a buy or sell message in an MT502 format to the server 102. In addition, the GUI permits the broker to connect to the server 102, and download MT502 messages from other brokers directed to the broker. The GUI also permits the brokers to modify standing delivery instructions that are stored in the database 106; these instructions are appended to the messages. However, both the originating broker and the executing broker can manually override the standing delivery instructions stored in the database by entering settlement data on the MT502 and MT518 messages.

In an embodiment of the present invention, the operating system for the workstation includes a 32 bit operating system, such as Windows NT™.

The system of an embodiment of the present invention uses messaging formats developed by SWIFT, making it an efficient communication and trade confirmation system compatible with SWIFT messages standards and the SWIFT financial network. It will be appreciated by those skilled in the art that the present invention may operate with any public data network.

The server also has the ability to generate a message asynchronously to a receiving party via SWIFT or any other data network without the user having to

solicit the server. This is accomplished by using a distributed computing environment where a user's workstation acts as both a client and a server. The central server contains a remote procedure call that creates and generates an unsolicited message to the user's workstation.

FIG. 7 depicts the flow and type of messages sent to and from the example base system as used in conjunction with an embodiment of the present invention. The originating broker 100 writes an order to either buy or sell securities 112 to the executing broker 122. This message 112 is coded according to the SWIFT securities message format as an MT502 message and sent to the server 114. The server 114 receives the order 112, stamps it with the time received, assigns a reference number, and adds the originating broker's standing delivery instructions 116, pre-entered into a database of standing delivery instructions 118.

Standing delivery instructions 116 allow all the parties, the originating broker 100, the originating broker's clearing agent 130, the executing broker 122, and the executing broker's clearing agent 128 to monitor the status of the transaction. The standing instruction database 118 contains the standing delivery instructions 116. The standing delivery instructions are identified by the originating broker's User ID and subaccount, and specify the place of settlement, country of settlement, method of settlement, and security type.

The standing delivery instructions 116 allow the originating broker 100 and the executing broker's clearing agents, 130 and 128, to settle the trade. The originating broker 100 and the executing broker 122 may use the standing instructions 116 or customize each orders' delivery instructions. To override the standard delivery instruction database 118, the originating broker 100 or the executing broker 122 enters settlement data on the MT502 orders 112 or the MT518 confirmations 124.

The server 114 saves the originating broker's MT502 buy or sell order 112 until the executing broker 122 logs into the system and downloads the order 120.

The executing broker 122 logs into the server 114 and may display or retrieve either all open orders, all MT52x messages, all MT53x messages, or all

messages to their work station. In this case, the executing broker 122 downloads orders 120 from the server 114. The system then forwards the originating broker's message, with the attached delivery instructions 120 to the executing broker 122. With a successful download, the server 114 attaches a time stamp of when the message download occurred to the message 122.

The originating broker 100 may also send a buy or sell order 128 to the executing broker 122 through an alternate system than the system, using the current system of either a telephone or a fax machine 126.

The executing broker carries out the MT502 buy or sell order 120 or 128 and develops an MT518 confirmation 124 that the order was completed. The executing broker may either save the MT518 market confirmation locally on a personal computer or send the MT518 market confirmation 124 to the server 114 immediately.

Within an embodiment of the present invention, the server 114 takes the executing broker's confirmation 124 and matches it against the originating broker's order 112. This process is conducted in the background without user intervention.

The originating broker 100 may also use a telephone or fax to place an order 128 directly to the executing broker 122. When the originating broker 100 receives the executing broker's MT518 message 124, the originating broker 100 checks for originating broker's MT502 message 112. If an MT502 112 is not found, the originating broker 100 clicks on a generate button to automatically generate a buy or an MT502 sell order 112. The system of an embodiment of the present invention then automatically matches the generated order 112 to the executing broker's confirmation 124.

If the MT518 market confirmation 124 and the MT502 buy or sell orders 112 do not match, the server 114 allows the originating broker 100 to visually compare and manually match the MT518 market confirmation 123 and the MT502 buy or sell order 112.

If the executing broker's and the originating broker's messages match, the system of an embodiment of the present invention develops an MT52x message notification 131 using the data elements from the MT502 112, the MT518 124 and the standing delivery instructions 116. This message is time stamped and stored until the clearing agent(s) 128, 130 log into the server 114. When the server 114 sends the MT52x message 131, it applies a time/date stamp confirming the time of download. The MT518 message 123 is also sent to the originating broker 100.

The type of MT52x 131 message notification sent to the originating broker's clearing agent 130 depends upon whether the originating broker's MT502 order 112 was a buy or a sell order.

If the MT502 message 112 was a buy order, the server constructs and sends an MT521 message 135 to the originating broker's clearing agent 130 and constructs and sends an MT523 message 140 to the executing broker 122 and the executing broker's clearing agent 128. If the MT502 message 112 was a sell order, the server constructs and sends an MT523 message 145 for the originating broker's clearing agent 130, and constructs and sends an MT521 message 149 to the executing broker 122 and the executing broker's clearing agent 128.

When the broker enters the system, the server operates in conjunction with a graphical user interface according to an embodiment of the present invention. References will now be made in detail to an embodiment of the present invention for a Windows NT™-based GUI, an example of which is illustrated in the accompanying drawings.

To log in to the CMS server, the user performs one of the following methods. In the first method, as shown with regard to FIG. 8, the user selects login to the server 161, also referred to as the host, from the file menu 150. In an embodiment of the present invention, the broker is then greeted by the connect screen of the server, an example of which is depicted in FIG. 8A. In the second method, the user clicks once on the online button (which reads "offline") of the main screen, as shown in FIG. 9 (described further below).

With either method, the connect screen 190, shown in FIG. 8A, then appears, which enables the broker to enter an identification 191 and password 192. The broker selects OK 193 or clear 194 to correct. In addition, the broker can change the password at this level by clicking on the change password button 195. Once the user is connected to CMS the online button reads "online," as shown in FIG. 9.

To log off from the server, the user performs one of the following: 1) selects log off 162 from the file menu 150, as shown in FIG. 8; or 2) clicks once on the online button of the main screen, as shown in FIG. 9, below. Once the user is disconnected, the online button of the main screen changes to "Offline."

In order to properly function, CMS requires that a number of fields contain data. A list of example data elements for example instrument types is shown in the Appendix. This list is not mean to be all inclusive. The glossary contains other terms used in connection with the present invention.

As shown in FIG. 9, the main screen window 220 is used to enter and view trades. A trade is divided into two components: "ours" 221 and "theirs" 222. The "ours" component further includes toggles to subpanels for primary 227 and charges 228. The main window 220 has the following buttons and input boxes to make entering and viewing confirmations easy: buttons for copy 221a, save 221b, clear 221c, and cancel 221d; boxes for buy/sell 221e, quantity 221f, instrument 221g, ISIN 221h, settlement amount 221j, trade date 221k, settlement date 221m, deal amount 221n, price 221p, and reference number 221q.

The primary component 227 includes boxes for price type 227a, dealing capacity 227b, attribute 227c, conditions 227d, trade place 227e, clearing agent 227f, receiver of cash 227g, and memo 227h.

The trade blotter section 220a of the window 220 displays all the confirmations that the user has either created, sent, or received. An embodiment of the present invention includes fields (or sets) of elements and data. The elements and data in the elements for the field are presented to the user in the trade blotter and the trade summary (described further below). To view an item on the

trade blotter section 220a, the user moves the cursor to the item and double clicks. Once selected, the item turns to gray in the trade blotter section 220a and appears on the screen in either the "ours" 221 or "theirs" 222 panel.

The online button 225 indicates if the user is currently connected to the CMS server. If the user is connected, the button appears as "online". If the user is disconnected, the button appears as "offline". Clicking on the button 225 when it displays "online" disconnects the user from the server.

Clicking on the refresh button 226 sends all pending confirmations on the workstation to the server and retrieves all confirmations that have been modified by a counterparty since the last time the user refreshed the local database.

At the top of the window are several pulldown menus. These pulldown menus include file 150, view 151, reports 152, product 153, and help 154.

FIG. 10 diagrams how both the originating broker and the executing broker may use the system via the GUIs according to an embodiment of the present invention. The originating broker may enter, maintain, and cancel orders to buy or sell securities through this GUI on or off-line. The executing broker may display all open orders, and enter confirmation data on the GUI during on-line and off-line hours. All data is entered through pop-up and scrolling windows containing pre-defined fields (or sets) and tables of data where applicable.

In FIG. 10, the broker is greeted with a connect screen 190, shown in FIG. 8A. The broker enters a user name and password. If the password is incorrectly entered, the broker chooses the clear button 194, and the system clears all data fields 308 and returns the broker the connect screen 190. If the broker decides not to enter the system, the broker selects the quit button 196 and exits the system 233.

If the broker elects to change the password, the broker selects the change password button 195, and the GUI shows the change password screen 235, as shown in FIG. 10A. The system passes the broker's User ID to this screen's data fields 236. The broker enters the old password 237 and enters the new password 238, and verifies the new password by entering it again 238a. If the broker decides not to change the password, the broker selects the quit button 239 and returns to

the connect screen 190. If the broker decides the password entered is incorrect, the broker selects the clear button 240. The data fields are cleared 243 and the broker is returned to the change password screen 235. If the broker decides the information is correct, the OK button is selected 241 and the User ID and new password is saved by the system 242, then the system returns to the connect screen 190.

If the broker decides the password entered at the connect screen 190 is correct, the broker selects the OK button 193. The system then assigns the personal computer an internet protocol address 245. Then it creates and stores the User's ID, password, and internet protocol address as the user's encrypted key 246. The user's account is called from the personal computer's memory, the system accesses the user's account information 247 and displays the main screen 220 (see FIG. 9).

As shown in FIG. 10, selecting the save button 221b saves all information entered on the main screen 220 to a local relational database management system 248, such as database engines provided by Oracle™ Corporation of Redwood Shores, California, or Sybase Corporation of Emeryville, California. Selecting the clear button 221c clears all the panels of entered information 252 and returns the user to the main screen 220. Selecting the cancel button 221d returns the user to the connect screen 190. Selecting the refresh blotter button 226 causes the personal computer to submit the order 260 and the execution information 262 to the server. The server uses the quick match information 264 and matches this information 266. The server also retrieves order information 268 and gets the market confirmation 270 from the personal computer. This downloads all the orders and executions that are active on the server. Refreshing 226 the trade blotter and the trade summary screen sends all pending trades to the server and retrieve all trades that have changed since the last time the broker accessed the server.

FIG. 11 describes use of the order panel 221 contained in the main screen 220, as shown in FIG. 10. As shown in FIG. 11, the user, who is, for example,

developing an MT502 order, enters information on the "ours" panel 221. The "ours" panel 221 includes a button 221e of either buy or sell.

The user selects the following buttons and input boxes: quantity 221f, instrument 221g, ISIN 221h, settlement amount 221j, trade date 221k, settlement date 221m, deal amount 221n with text 257, price 221p with text 256, and reference number 221q. The primary panel 227 includes boxes for price type 227a, dealing capacity 227b, attribute 227c and text 253, conditions 227d and text 255, trade place 227e and text 254, clearing agent 227f, receiver of cash 227g, and memo 227h.

The use of the "theirs" panel 222 is described in conjunction with the quick match function, described below in relation to FIGs. 22-23. To add charges, the user clicks once on the charges button to display the charges panel 228, as shown in FIG.12.

As shown in FIG. 12, the charges dialogue box 330 is used to identify additional charges on the confirmation. The user enters accrued interest 330a, Net proceeds 330b, and FX information 330c. In FIG. 12, to enter FX rates on a securities confirmation 330c, when the confirmation currency is different from the settlement currency, the user must specify the exchange rate on the confirmation screen in the FX dialogue box. The first currency is the base currency and the second is the currency to which the exchange rate is to applied to obtain the base currency.

The user views in any additional charges in the dialogue box 330c. The dialogue box 330c also contains columns charge, CCY, amount, and narrative. The window 330 also includes total charges 330d. Additional charges information is added or edited by the user by selecting the charges button 331.

Selecting the charges button 331 in FIG. 12 produces the popup window 335, as shown in FIG 13. The popup window 335 includes boxes for entering information on type 335a, currency 335b, amount 335c, and narrative 335d. The user can also use the menu buttons shown in the popup window 335. These menu buttons includes back 336, add 337, delete 338, clear 339, next 340, and close 341.

To view a summary of all confirmations, the user double clicks on the trade summary button 223 (FIG. 9). Clicking once on the selection button 224 allows the user to modify how they wish to view trades in the trade blotter and trade summary.

As shown in FIG. 14, the trade summary screen window 375 of an embodiment of the present invention for an example instrument type has the following buttons to make viewing confirmations easy: suggest 376, differences 377, refresh 378, and exit 379. Moving the cursor to any trade on the trade summary screen 375 and double clicking display the trade details.

To sort the confirmations, the user clicks on any of the column headings 375a-375m. These column heading correspond to fields, each column having lines of elements containing data. To cancel a confirmation, the user uses the mouse to select a confirmation from the trade blotter 220a. Once the trade appears in the "ours" panel 221 on the main screen 220, the user clicks once on the cancel button 221d. The trade status 375d then changes to CANCELED. The user clicks once on the save button 221b (FIG. 9) to save the trade. (Note: the user can only cancel their own confirmations.)

The user can only delete one of their confirmations before it has been sent to the counterparty. To delete a confirmation, the user selects the confirmation from the trade blotter. The confirmation then appears in the "ours" panel 221 (FIG. 9). The user clicks once on the cancel button 221d. The user is then prompted to verify that this is the confirmation that the user wants to delete. The user clicks once on the OK button to delete the confirmation. Once a confirmation has been sent to the counterparty, the user must cancel the confirmation.

To enter a confirmation, in the main screen 220 (FIG. 9), the user moves the cursor to the our tab 221 and clicks once. This activates the panel 221. The user uses the buy/sell selection 221e to specify whether the user has executed a buy or a sell, and then the user enters the required trade data and specifies the counterparty. The user then clicks once on the save button 221b to save the confirmation.

In order to reconcile unmatched trades, the user clicks on one confirmation in the trade summary. If the user clicks on the suggest button 376, an automatic search occurs for trades that potentially match. Clicking on the up and down arrows 380 increases or decreases, respectively, the number of fields that are used during the search.

Clicking on the differences button 377 in FIG. 14 displays the fields that are different between the two confirmations, as shown in the window 385 shown in FIG. 15. The user can automatically fix the confirmation by clicking on the fix "ours" button 386. Clicking on the details button 387 allows the user to manually correct the confirmation. Clicking on the exit button 388 removes the differences dialogue box.

FIG. 16 describes one use of the summary/report screen 375 shown in FIG. 14 and the differences screen shown in FIG. 15. The screen 375 includes our entity 375a, counterparty 375b, entity 375c, trade status 375d, fund 375e, buy/sell indication 375f, call/put indication 375g, style 375h, strike price 375j, currency 375k, and currency 375m. If the user selects refresh 378 the personal computer logs into the server 378a (see FIG. 10), and the information is updated.

If the broker selects exit 379, the screen exits 379a to the main screen (see 190 in FIG. 10). In addition, the broker can select a suggest button 376 to suggest a match. As discussed above, if the user selects the differences button 377, the differences screen 385 appears, as shown in FIG. 15 (see further description with regard to FIG. 15 above).

In FIG. 9, after the user selects the select button 224, a selection screen 380 appears, as shown in FIG. 17. The selection screen 380 is used to modify how the user views trades in the trade blotter and in the trade summary. The selection screen 380 has the following features to make viewing confirmations easy: buttons for default 380a, close 380b, and save 380c; toggle boxes for status 380d, msg view 380e, and data type 380f; and input boxes for counterparty 380g, our entity code 380h, from 380j, and to 380k. The counterparty input box 380g specifies the trade counterparty of the transaction. In an embodiment of the

present invention, the 11 character SWIFT BIC code of the counterparty is entered in this field.

A closeup of the trade blotter screen 220a is presented in FIG. 18. The trade blotter screen 220a provides a quick view of the status of the user's confirmations. (See FIG. 19 below for more information regarding trade blotter information.) To view an item on the trade blotter, the user moves the cursor to a trade 391 and double clicks. The selected item turns gray on the trade blotter and appears on the main window screen 220 (FIG. 9).

To change the trade blotter and trade summary view, as shown in FIG. 9, the user clicks on the select button 224 to display the selection dialog box 380 (see FIG. 17 above) or selects selection criteria from the view menu 151 (see FIG. 8). The selection dialogue window 380 (FIG. 17) appears with the default values already set. The user indicates whether they wish to see unmatched, matched, or canceled trades by checking the appropriate boxes in the status box 380d. The user can also select to view either all views of trades, a counterpart's views of trades or all views by checking the appropriate boxes in the msg view box 380e. The user can also select to view trades by a certain date by checking the appropriate boxes in the data type box 380f. The user clicks once on the save button 380c to complete the section setup. The user clicks once on the close button 380b to close the selection window 380.

Refreshing the trade blotter and trade summary screen sends all pending trades to the CMS server and retrieves all trades that have changed since the last time the user accessed the server. To refresh the screens, the user simply clicks the refresh button 226 (FIG. 9).

FIG. 19 contains information on various elements of the example trade blotter screen 220a of FIG. 18. As shown in FIG. 19, the various elements of the trade blotter screen 220a include buy/sell indicator, ordering broker, financial instrument, executing broker, quantity, message color, matched status, and message status. With regard to message color (background of section), yellow indicates unmatched, blue indicates matched, red indicates canceled, and gray

indicates active on screen. With regard to matched status, "U" indicates unmatched, "M" indicates matched, and "C" indicates canceled. With regard to message status, "S" indicates send and "R" indicates read.

The file 150 menu commands, as shown in FIG. 8, will now be further described. FIG. 8 presents the file 150 pull-down menu. The login to server (host) selection 161 allows the user to log into the server in order to enter, maintain, send, and retrieve data on the CMS server. The logoff selection 162 allows the user to logoff of the system. The change password selection 163 allows the user to change their password. The refresh all trades selection 164 allows the user to download all the confirmations that are active on the CMS server. Downloading all trades could take a while.

The import and export selections 166 and 167 allow the user to import data from their internal systems to the CMS workstation or to export data from the CMS workstation to their internal systems.

The printer setup selection 168 sets printer options before printing a topic. The user can select a printer and set or change options for the printer. The options available depend on the type of printer selected. The print screen selection 169 prints the screen that is displayed. The exit selection 170 quits CMS and saves any confirmations the user has created.

To import and export files, the user selects either import 166 (FIG. 8) or export 167 from the file menu 150. The user selects either SWIFT format or Tab Delimited format from the submenu (not shown). The import/export dialog box 420 then appears, as shown in FIG. 20. The user selects the file name 421 and destination directory 422. The user clicks on the OK button 423 to execute the import or export command. The user may also select buttons to cancel 424 or access a network 425.

Once the import or export has been completed, an import/export confirmation box 430 appears as shown in FIG. 21. The user clicks once on the OK button 431 to remove the dialogue box 430.

CMS is able to receive files that are generated from a user's in-house system in either a SWIFT format or a tab delimited format. Certain import file specifications apply to this data.

The user may confirm (quick match) a confirmation without entering view by selecting a counterpart's confirmation from the trade blotter. As shown in FIG. 9, the user clicks once on the "theirs" panel 222 to begin the quick match process. The "theirs" panel 435 then appears, as shown in FIG. 22. The user clicks once on the confirm button (not shown). In general, the quick matches are made in the following manner.

A quick confirmation dialogue box 440 then appears, as shown in FIG. 23. The user enters a transaction reference number 441 and settlement instructions 442 in the confirmation dialogue box. The user then clicks once on the OK button 443 and the confirmation is created. The user can also cancel the quick confirmation using the cancel button 444. When the user refreshes the trade blotter, the trade is matched at the server.

The reports function will now be described. The trade detail function prints a detail report of the current trade that is displayed on the screen. The trade summary function prints a report of all the confirmations that are currently displayed in the trade summary.

To view the history of a trade, the user clicks once on the right mouse button. A popup window 450, as shown in FIG. 24, then appears. The user then clicks once on history 451 to display the trade history dialogue box. To remove the trade history dialogue box, the user clicks once on the OK button (not shown).

If the user selects the products pulldown menu 153, as shown in FIG. 9, a pulldown menu 455 appears, as shown in FIG. 25. The product pulldown menu 455 includes securities 456, FX options 457, FX match 458, and securities settlement 459. Securities 456 allows the user to match securities confirmations. In an embodiment of the present invention, the securities product is based on the SWIFT standard MT518 messages. In embodiment of the present invention, this product is used for crossborder broker to broker sales and can be used for both

equities and fixed income trades. An embodiment of the present invention includes additional products accessible via the products pulldown menu 153. These additional products include money markets, derivatives confirmation, and precious metals confirmation. Money markets uses MT320 SWIFT messages. Derivatives confirmation is based on SWIFT MT340 messages standards and is intended for FRA confirmations; this product is also usable for other types of derivative instruments. Precious metals confirmation is based upon the SWIFT MT600 message.

FX options 457 allows the user to make FX options trade confirmations. In an embodiment of the present invention, this product is based on the SWIFT305 message. FX match 458 allows the user to match FX confirmations. An embodiment of the present invention for FX match includes native SWIFT 97 format and completely removes distinctions between banks and non-banks so that the system is usable for bank to bank, bank to corporation, or corporation to corporation confirmations.

Securities settlement 459, as discussed further below with regard to FIGs. 27A-27D and 28, allows the user to send and confirm securities settlement instructions. In an embodiment of the present invention, securities settlement is based upon the MT520, MT521, MT522, MT523, and MT53X SWIFT messages. These messages are used to send a settlement notification to a clearing agent and to receive a confirmation back from the clearing agent. In an embodiment of the present invention, the securities product 456 for broker to broker securities confirmation allows the user to automatically generate an MT52X message to the clearing agent when the user has matched a deal, and upon any subsequent modification to that message.

The view menu pulldown menu 151 is shown in FIG. 26. The menu 151 includes pending deals 151a, selection criteria 151b, and trade summary 151c. Pending deals 151a allows the user to view any transactions pending on the server. Selection criteria 151b changes the criteria with which the user views the trade

blotter and trade summary screen. Trade summary 151c accesses the trade summary screen.

FIG. 27A presents a settlement instructions window 500 with the primary subwindow 500a presented for an embodiment of the present invention. This window 500 is accessed by the user via the securities settlement selection 459 in the products pulldown menu 155, shown in FIG. 25. FIG. 27B presents a settlement instructions window 500 with the additional fees subwindow 500b presented for an embodiment of the present invention. FIG. 27C presents a settlement instructions window 500 with the miscellaneous instructions subwindow 500c presented for an embodiment of the present invention. FIG. 27A presents a settlement instructions window 500 with the confirm details subwindow 500d presented for an embodiment of the present invention.

In an embodiment of the present invention, trade settlement occurs, for example, as shown in the two scenarios presented in FIGs. 28A and 28B. Once a trade has been executed between a broker/dealer and its local counterpart, the local counterpart enters the confirmation into CMS and sends the confirmation to the server. The broker dealer also enters the deal information into their local deal capture system and routes an MT52x settlement instruction to a banking institution. CMS receives MT52x settlement messages and attempt to match them to the local broker's trade confirmation message.

If the two transactions match, then CMS appends field 72 in the MT52x message with the code words /Matched/CrossMar, and forward the instruction to a regional processing center. The status of the local broker's confirmation changes from UNMATCHED to PREMATCHED. If the two transactions do not match, CMS appends the field 72 in the MT52x message with /CUNMATCH/CrossMar and with the appropriate status code(s) and forwards the instruction to the regional processing center. In this case, the status of the local broker's confirmation remains as UNMATCHED. Under no circumstances does CMS generate a new MT52x settlement instruction nor does CMS alter any data in the MT52x settlement message other than field 72.

In an embodiment of the present invention, there are instances where the local broker's confirmation reaches the server after the broker/dealer settlement instruction has passed through the server and has been forwarded to a custody system. CMS attempts to prematch the transaction, but does not forward the results to the banking institution in the form of an MT52x settlement instruction. The banking institution is, however, able to view the status of all transactions via the report feature in the GUI application. Brokers/dealers and local brokers are able to view the status of their transactions via the report feature in the GUI application.

For an embodiment of the present invention, matching fields include the following: counterparty; security type and quantity; security code and description; trade date; settlement date; and settlement CCY and amount. In an embodiment of the present invention, CMS provides tables to translate local market codes to SWIFT codes for counterparty identification. In an embodiment of the present invention, matching rules include the following: MT52x settlements are matched with MT518 confirms; MT592 cancel settlements are only matched with previously Matched MT518 confirms; and amended confirms cannot break a matched settlement.

Matching scenarios for an embodiment of the present invention are illustrated in FIGs. 28C and 28D. Where the settlement message arrives after the confirm message, the table shown in FIG. 28C applies. When the confirm message arrives after the settlement message, the table shown in FIG. 28D applies.

FIG. 29 presents an example of a standing instructions screen for an embodiment of the present invention. In the window 550, the ordering broker specifies the trade date, the settlement amount, the settle date, the safekeeping account, the clearing agent, and the safekeeping type all within the settlement window. In addition, the ordering broker specifies the beneficiary of the instrument, the payment account, the beneficiary of money, the account for charges, and the registration details.

FIG. 30 describes the use of a settlement instructions window 550 for the embodiment of the present invention as described in FIG. 29. The window 550, which has a page for settlement instructions 502, contains fields for the settlement country 504, the agent 506, the subagent 508, the name 510, the first 512 and second 514 lines of address, the city 516, postal code 518 and the state or province 520. The country may be selected 522, as well as the clearing agent 524, and the depository 526. The broker may also enter the payment account 528, the safekeeping 530 and wire instructions 532, the account to be billed for charges 536, and registration details 540.

Embodiments of the present invention have now been described in fulfillment of the above objects. It will be appreciated that these examples are merely illustrative of the invention. Many variations and modifications will be apparent to those skilled in the art.

APPENDIX

Example data elements for example instrument types include the following:

FX Options
Counterparty
Buy/Sell
Call/Put
Style
Contract Date
Currency 1
Strike Price
Currency 2
Premium Date
Premium Price
Premium Amount
Expiry Date/Time
Settlement Type
Sender's Correspondent (for buying party)
Account with Institution

Securities
Counterparty
Buy/Sell
Quantity
Instrument
Price
Deal Amount
Settlement Amount
Trade Date
Settlement Date

Reference Number

Further description of selected data elements is as follows. Deal amount specifies the ISO currency code and the total amount of the deal. It is equal to the confirmation price multiplied by the quantity of financial instruments. Instrument identifies the financial instrument in the transaction. An ISIN identifier is used when available. Price specifies the ISO currency code and the price of the deal as executed.

Quantity specifies the quantity of the financial instrument in the trade. The following codes are used to identify the type of instrument traded: 1) BON -- Bonds; 2) CER -- Representative Certificates; 3) CPN -- Coupons; 4) FMT -- Face Amount; 5) MSC -- Miscellaneous; 6) OPC -- Option Contracts; 7) OPS -- Option Shares; 8) PRC -- Premium Contracts; 9) PRS -- Premium Shares; 10) RTE -- Rentes; 11) RTS -- Rights; 12) SHS -- Shares; 13) UNT -- Units; and 14) WTS -- Warrants.

Settlement amount specifies the ISO currency code and the total amount of money to be received in exchange for financial instruments. Settlement date specifies the date on which the financial instruments and funds are to be exchanged. Optionally, this field may be used to indicate that settlement will take place at another specified place or date. If this is the case, one of the following codes may be used: 1) WIS -- When Issued; 2) WDS -- When Distributed; 3) WID -- When Issued/When Distributed; or 4) SOP -- Seller's Option. Trade date indicates the date on which the trade was executed.

GLOSSARY

Terms used in connection with various examples relating to an embodiment of the present invention may include one or more of the following. The list is not meant to be exclusive or to limit in any way the practice of the present invention.

"Account for charges" specifies the account(s) to be charged if it is different from the account for payment specified in the account for payment field.

"Account for payment" identifies the ordering broker's cash account, serviced by the executing party and from which payment is to be made in a buy order or to which payment is to be made in a sell order.

"Account with institution" indicates the institution to which payment is to be made in favor of the beneficiary of money.

"Accrued interest" specifies the ISO currency code and the amount of accrued interest to be added or deducted.

"Attribute" further defines the financial instrument by specifying an attribute. In relation to attribute, a code word may be selected from the following: 1) CFI -- the ISO classification of the financial instrument code followed by the six digit code; 2) CPD -- the next coupon date followed by a date in a YYYYMMDD form; 3) CPN -- the next coupon number followed by the number; 4) CTN -- certificate numbers followed by the code MSG579 (meaning an MT579 will follow); 5) CUP -- Covered or Uncovered Position Indicator followed by C for covered or U for Uncovered; 6) MDC -- maturity date of the contract; 7) MDD -- maturity date of the debt instrument followed by the date in the YYYYMMDD form; 8) MSC -- other attribute followed by a short description; 9) OPS -- option style followed by A for American or E for European; 10) OPT -- option type followed by P for put option or C for call option; 11) SKP -- strike price followed by the strike price; 12) VNO -- version number of the contract of tranches followed by the number.

"Beneficiary of financial instruments" is used to specify in a order to buy if the financial instruments, once delivered to the clearing agent, are to be deposited

in favor of another party or account. This field should not be used in a sell transaction.

"Beneficiary of money" identifies the account to be credited with the proceeds of the sale.

"Buy/sell indicator" is used to specify if an order or execution is to buy or sell. "Charge narrative" is used to further explain the charges in charges dialogue box.

"Charges" dialogue box is used to identify additional charges on the execution. Use this feature to enter commissions, taxes, stamp duty, exchange fees, postage, shipping fees, and any other additional charges.

"Clearing agent" is used to identify both the type of clearing arrangement and the settlement agent used for clearing transactions. One of the following codes may be specified in relation to a clearing agent: 1) APMT -- delivery is made against payment; or 2) FREE -- delivery is made free. The recommended format for entering settlement instructions is: the first line is the account number at the clearing agent and the second line is the clearing agent's SWIFT BIC code.

"Commission" specifies the commission agreed between the ordering broker and the executing party.

"Commission basis" specifies the basis for the commission indicated in the commission field. One of the following codes can be selected: 1) P -- the commission is per unit of the financial instrument; 2) F -- the commission is a flat fee; 3) O -- the commission is a percentage of the broker's commission.

"Conditions" specifies an additional transaction or trade condition. One of the following code words may be selected with regard to conditions: 1) AIB -- accrued interest calculation basis; 2) BLK -- block order; 3) BST -- best confirmation price indicator, followed by a Y for yes or an N for no; 4) CBK -- commission sharing broker; 5) CBN -- trade executed cum bonus; 6) CCP -- trade executed cum coupon; 7) CDV -- trade executed cum dividend; 8) CRS -- cross trade indicator, followed by a Y for yes or an N for no; 9) CSA -- commission sharing agent; 10) CSB -- commission sharing basis; 11) FRC -- free clean

settlement; 12) GDL -- trade executed with guarantee delivery; 13) MSC -- miscellaneous; 14) NTP -- net price; 15) POS -- position; 16) SDL -- trade executed with a special delivery; 17) SDT -- requested settlement date; 18) SEM -- trade executed by a stock exchange member; 19) SLC -- trade executed in a special location; 20) SRO -- trade executed under rules of the self regulatory organization; 21) XBN -- trade executed ex bonus.; 22) XCP -- trade executed ex coupon; and 23) XDV -- trade executed ex dividend.

"Counterparty" specifies the trade counterparty of the ordering broker.

"Country" identifies the country where settlement of the transaction will occur. The ordering broker may specify the two character ISO country code on the order.

"Country code" is used to specify the country where settlement is to occur. The two character ISO country code may be entered.

"Created" is the date the confirmation was created.

"Deal amount" specifies the ISO currency code and the total amount of the deal. It is equal to the execution price multiplied by the quantity of financial instruments.

"Dealing capacity" identifies the role of the executing party. The following code words may be selected: 1) AGEN -- the executing broker acted as an agent; 2) CROS -- the executing broker executed both sides of the trade; and 3) PRIN -- the executing broker acted as principal.

"Executing broker" indicates the executing party to which an order has been submitted or executed.

"Instrument" identifies the financial instrument in the transaction. An ISIN identifier should be used when available.

"Net proceeds" specifies the ISO currency code and net amount after charges/taxes to be credited to the seller.

"Ordering Broker" indicates the initiator of an order to buy or sell securities.

"Place of trade" indicates where the order is to be executed. One of the following codes may be selected: 1) OTC -- over the counter; 2) PRM -- primary market; 3) EXC -- stock exchange; and 4) MSC- other place of trade.

"Price" specifies the ISO currency code and the price of the deal as executed.

"Price Limit" specifies the currency, price limit and code identifying the type of order. The field includes an ISO currency code, a price and a price limit code.

"Price Limit Codes" are codes used to buy or sell orders, and include the following: AON -- all or none; BCE -- buy contra short exempt; BCS -- buy contra short; BMI -- buy minus; CAR -- carefully; COM -- combination order; DNI -- do not increase; DNR -- do not reduce; DSC -- discretionary; FOK -- fill or kill; LMT -- limit order; LWO -- limit with or without a round lot sale; MIT -- market until touched; MKT -- at the market; MNH -- market not held; MSC -- miscellaneous; NHD -- not held; ORL -- order lie; SEI -- sell short exempt; SLO -- stop loss; SPS -- sell plus; SSI -- sell short; STL -- stop limit; and STP -- stop order.

"Price limit qualifier" is used to specify whether the price limit used in the price limit filed and or the stop price is a discount or premium amount or a par value. The following code words may be selected: CEN -- the price or stop limit is less than a dollar; DIS -- the price or stop price limit is a discount amount or percentage relative to the issue price; PAR -- the price or stop price limit is a par value or equal to the nominal or face value of the instrument; and PRE -- the price or stop price limit is a premium amount or percentage relative to the issue price.

"Price type" is used to specify if the price is a discount or premium amount or another type of price. One of the following codes may be used: 1) CEN -- the price is less than a dollar; 2) DIS -- the price is a discount or percentage relative to the issue price; 3) PRE -- the price is a premium amount or percentage to the issue price; or 4) PAR -- the price is a par value or equal to the nominal or face value of the instrument.

"Quantity" specifies the quantity of the financial instrument in the trade. The following codes may be included to identify the type of instrument: BON -- bonds; CER -- representative certificates; CPN -- coupons; FMT -- face amount; MSC -- miscellaneous; OPC -- option contracts; OPS -- option shares; PRC -- premium contracts; PRS -- premium shares; RTE -- rentes; RTS -- rights; SHS -- shares; UNT -- units; and WTS -- warrants.

"Receiver of cash" is used to identify the party to which to be ultimately delivered or which holds the financial instruments when other than the clearing agent. The first line is the account number at the clearing agent and the second line is the clearing agent's SWIFT BIC code.

"Receiver/deliverer of financial instruments" is used to identify the party to which to be ultimately delivered or which holds the financial instruments when other than the executing party. The following codes are included for an embodiment of the present invention: APMT-- delivery is made against payment; and FREE -- delivery is made free.

"Registration details" identifies the party whose name the financial instruments are to be registered. This field may also contain the instruction not to re-register.

"Reporting instruction" is used to specify a reporting or processing instruction. One of the following codes may be used in an embodiment of the present invention: DDO -- directed order; or DOR -- direct order.

"Routing indicator" indicates whether the order is to be routed to an order routing application or to a specific party. The following code words may be selected: AOR -- used to direct an order to an automatic order routing service; and ATT -- used to direct the order to attention of a specific party.

"Safekeeping account" identifies the ordering broker's safekeeping account serviced by the executing party.

"Safekeeping type" identifies the type of safekeeping. One of the following codes may be selected: 1) ABR -- the financial instruments are held abroad; 2) CEN -- centralized domestic book-entry; 3) MSC -- other type of

safekeeping, followed by a short description; or 4) PHY -- physical domestic safekeeping.

"Security type" is designated on the order to identify the type of financial instrument is used in conjunction with the country to retrieve the corresponding settlement instructions from the standing delivery instructions database. One of the following codes must be entered on the order: EQU -- equity; FIN -- fixed income; FUT -- futures; MIS -- miscellaneous; and OPT -- options.

"Sender to receiver information" is used to supply additional information and is to be used only when no other field is available for this information.

"Settlement amount" specifies the ISO currency code and the total amount of money to be received in exchange for the financial instruments.

"Settlement date" specifies that date on which the financial instruments and funds are to be exchanged. Optionally, this field may be used to indicate that settlement will take place at another specified place or date. If this is the case, then one of the following codes may be used for an embodiment of the present invention: WIS -- when issued; WDS -- when distributed; WID -- when issued/when distributed; and SOP -- seller's option.

"Standing instructions override indicator" when checked indicates that standing instructions contained in the standing instructions database are to be overridden.

"Status codes" identifies the status of an order or confirmation. The following three status codes may be included: 1) CANCELED -- indicates that the confirmation has been canceled; canceled transactions appear in the trade blotter in red; 2) MATCHED -- indicates that the confirmation has been matched; matched transactions appear in the trade blotter in blue; and 3) UNMATCHED -- indicates that the confirmation has not been matched by its counterparty; unmatched transactions appear in the trade blotter in yellow.

"Stop price" is used when a price limit has been specified in the Price Limit field. The following code words may be selected: PCT -- followed by the

percentage price; REN -- followed by a revenue amount; and YLD -- followed by a yield price.

"Time limit" contains a code indicating the time limit or the date on which the order is to expire; or both. One of the code words may be selected: CLO -- at the closing; DAY -- good for the day; GTC -- good until canceled; GTE -- good until executed; GTM -- good for the month; GTD -- good through a date; GTX -- good until crossed; IOC -- immediate or cancel; and OPN -- at the open.

"Trade date" indicates the date on which the order was executed.

CLAIMS:

1. A method of matching a plurality of predetermined financial transactions for a plurality of users, wherein data for the plurality of predetermined financial transactions are categorized into at least one field of a plurality of fields such that data is contained in a total number of fields, and wherein the plurality of users includes at least a first user and at least a second user, comprising:

initiating a communication link between the first user and a server;

initiating a communication link between the second user and the server;

the first user selecting at least one predetermined financial transaction;

the second user selecting at least one predetermined financial transaction;

selecting a number of fields for obtaining matching, wherein the number of fields is not greater than the total number of fields; and

automatically identifying matching pairs of predetermined financial transactions, wherein each matching pair includes a first pair half comprising a first predetermined financial transaction for the first user, and a second pair half comprising a second predetermined financial transaction for the second user, and wherein the first pair half and the second pair half are within the selected number of fields.

2. The method of claim 1 wherein the predetermined financial transactions comprise at least one transaction selected from the group of securities, foreign exchange, money markets, and derivatives.

3. The method of claim 1 wherein the plurality of predetermined financial transactions include one from the group of an order to buy an investment instrument and an order to sell an investment instrument.

4. The method of claim 1 wherein initiating a communication link between the first user and the server further includes:

automatically prompting the first user for a user identifier;

transmitting a user identifier prompt response;

automatically comparing the response to a predetermined user identifier; and

if the response does not match the predetermined user identifier, automatically preventing the communication link.

5. The method of claim 1 further comprising:

requesting a display of differences between fields for the identified unmatched pairs of predetermined financial transactions; and

automatically displaying differences between fields for the identified unmatched pairs of predetermined financial transactions.

6. The method of claim 1 further comprising:

selecting charges associated with the plurality of predetermined financial transactions.

7. The method of claim 6 wherein the charges consist of at least one from the group of commission, broker commission, shared commission, stamp duty, transaction tax, value added tax, withholding tax, postage, shipping, soft dollar, tax, transfer tax, payment levy, SEC fees, matching fee, local tax, and country tax.

8. The method of claim 1 wherein each of the plurality of predetermined financial transactions is conducted using a transaction currency.

9. The method of claim 8 further comprising:

selecting a base currency;

automatically comparing the transaction currency of each of the plurality of predetermined transactions to the base currency; and

for each of the plurality of predetermined transactions for which the transaction currency does not match the base currency, automatically applying an exchange rate to the transaction currency.

10. The method of claim 1 further comprising:

selecting a data file to import, the data file containing data; and

automatically importing data from the data file.

11. The method of claim 10 wherein the data file comprises a file in SWIFT format.

12. The method of claim 11 wherein the data file comprises a file in tab delimited format.

13. The method of claim 1 further comprising:

automatically assigning a record to the identified matching pairs of predetermined financial transactions, such that each predetermined financial transaction has an assigned record for each of the identified matching pairs of predetermined financial transactions; and

automatically providing an option to view the assigned record for each of the identified matching pairs of predetermined financial transactions.

14. The method of claim 1 further comprising:

automatically providing an option to the first user to generate a summary report; and

if the user selects the option to generate the summary report, automatically generating the summary report.

15. The method of claim 14 wherein the summary report includes at least one field, the at least one field including at least one from the group of our

entity, counterparty, entity, trade status, fund, buy/sell indication, call/put indication, style, strike price, and currency.

16. The method of claim 14 wherein the summary report includes at least two fields, each of the fields including a set of elements and a set of data further comprising:

the first user selecting from the at least two fields a first field containing a first set of elements and a set of data;

automatically providing an option to suggest matches for the field;

if the first user selects the option to suggest matches for the field, automatically searching a second set of elements for a second field; and

automatically identifying a set of data for which the set of elements for the second field matches the set of data for the first field.

17. The method of claim 16 further comprising:

automatically presenting the first user with an option to select a set of fields to display, the set of fields comprising not more than the at least two fields; and

if the first user selects the option to select the set of fields, automatically providing the first user with a group of selections corresponding to the fields comprising the set of fields; and

the user selecting from the group of selections such that the set of fields comprises fields corresponding to the group of selections.

18. The method of claim 1 further comprising:

the first user selecting matching pairs of predetermined financial transactions, wherein each matching pair includes a first manual match pair half comprising a first predetermined financial transaction for manual match for the first user, and a second manual match pair half comprising a second predetermined financial transaction for manual match for the second user, and wherein the first predetermined financial transaction for manual match for the first user and the

second predetermined financial transaction for manual match for the second user contain the same data.

19. The method of claim 1 further comprising:

transmitting a message to a banking institution to settle the predetermined financial transaction; and

the banking institution settling the financial transaction.

20. A method for a first user to identify matching pairs of predetermined financial transactions for the first user and a second user, comprising:

the first user transmitting at least one set of data for at least one predetermined financial transaction for the first user from a first terminal to a server, wherein each predetermined financial transaction for the first user has a corresponding set of data and a corresponding set of summary data;

the first terminal automatically displaying a first combined summary set, wherein the first combined summary set comprises a combination of each of the corresponding sets of summary data for each predetermined financial transaction for the first user;

the first terminal automatically providing an option to display the corresponding set of data for a selected predetermined financial transaction;

the second user transmitting a second set of data for at least one predetermined financial transaction for the second user from a second terminal to the server, wherein each predetermined financial transaction for the second user has a corresponding set of data and a corresponding set of summary data;

the server automatically transmitting to the first terminal the second set of data for at least one predetermined financial transaction for the second user;

the first terminal automatically displaying a second combined summary set, wherein the second combined summary set comprises a combination of the first

combined summary set and a combination of each of the corresponding sets of summary data for each predetermined financial transaction for the second user;

the first terminal automatically providing an option to display the corresponding set of data for a selected predetermined financial transaction for the second user, wherein the first user may toggle between the display of the corresponding set of data for the selected predetermined financial transaction for the first user and the display of the corresponding set of data for the selected predetermined financial transaction for the second user;

the first terminal automatically providing an option to select at least two summary sets from the combined set of summary sets for matching predetermined financial transactions;

the first terminal automatically providing an option to select to identify automatically matching pairs of predetermined financial transactions, wherein each matching pair includes a first pair half comprising at least one predetermined financial transaction for the first user having a first pair half data set, and a second pair half comprising at least one predetermined financial transaction for the second user having a second pair half data set, the first pair half and the second pair half matched by matching the first pair half data set and the second pair half data set;

selecting the option to select to identify automatically matching pairs of predetermined financial transactions; and

automatically matching pairs of predetermined financial transactions.

21. The method of claim 20 wherein predetermined financial transactions comprise at least one transaction selected from the group of securities, foreign exchange, money markets, and derivatives.

22. The method of claim 20 further comprising:

automatically providing an option to quick match pairs of predetermined financial transactions;

selecting the option to quick match pairs of predetermined financial transactions; and

automatically quick matching pairs of predetermined financial transactions.

23. The method of claim 22 wherein automatically providing an option to quick match pairs of predetermined financial transactions further comprises:

selecting the option to display the corresponding set of data for the selected predetermined financial transaction for the second user;

confirming the selection of the option to display the corresponding set of data for the selected predetermined financial transaction for the second user;

inputting a set of quick confirmation instructions; and

automatically quick matching the set of data for the selected predetermined financial transaction for the second user to a matching predetermined financial transaction for the first user.

24. The method of claim 23 wherein the set of quick confirmation instructions includes a transaction reference number.

25. The method of claim 23 wherein the set of quick confirmation instructions includes an account identifier.

26. The method of claim 20 further comprising:

the first user selecting a first predetermined financial transaction;

automatically presenting the first user with an option to view a history for the first predetermined financial transaction, the history including a list of selected matching predetermined financial transactions corresponding to the second pair half for the predetermined financial transaction matching the first predetermined financial transaction; and

if the first user selects the option to view a trade history, automatically presenting the first user with the history for the first predetermined financial transaction.

27. A system for matching a plurality of predetermined financial transactions for a plurality of users, wherein data for the plurality of predetermined financial transactions are categorized into at least one field of a plurality of fields such that data is contained in a total number of fields, and wherein the plurality of users includes at least a first user and at least a second user, comprising:

a server;

means for initiating a communication link between the first user and the server;

means for initiating a communication link between the second user and the server;

means for the first user selecting at least one predetermined financial transaction;

means for the second user selecting at least one predetermined financial transaction;

means for selecting a number of fields for obtaining matching, wherein the number of fields is not greater than the total number of fields; and

means for automatically identifying matching pairs of predetermined financial transactions, wherein each matching pair includes a first pair half comprising a first predetermined financial transaction for the first user, and a second pair half comprising a second predetermined financial transaction for the second user, and wherein the first pair half and the second pair half are within the selected number of fields.

28. A system for matching a plurality of predetermined financial transactions for a plurality of users, wherein data for the plurality of predetermined financial transactions are categorized into at least one field of a plurality of fields

such that data is contained in a total number of fields, and wherein the plurality of users includes at least a first user and at least a second user, comprising:

a server;

a first communications device for initiating a communication link between the first user and the server;

a second communications device for initiating a communication link between the second user and the server;

a first display for displaying predetermined financial transactions that are available for selection by the first user for selecting at least one predetermined financial transaction;

a second display for displaying predetermined financial transactions that are available for selection by the second user for selecting at least one predetermined financial transaction;

an input device for selecting a number of fields for obtaining matching, wherein the number of fields is not greater than the total number of fields; and

a processor for automatically identifying matching pairs of predetermined financial transactions, wherein each matching pair includes a first pair half comprising a first predetermined financial transaction for the first user, and a second pair half comprising a second predetermined financial transaction for the second user, and wherein the first pair half and the second pair half are within the selected number of fields.

29. The system of claim 28 wherein the first communications device includes an input device, a central processing unit, and a connection for a network.

30. The system of claim 28 wherein the network includes the Internet.

31. The system of claim 28 wherein the second communications device includes an input device, a central processing unit, and a connection for a network.

32. The system of claim 28 wherein the first display is a visual display.

33. The system of claim 28 wherein the second display is a visual display.

FIG. 1

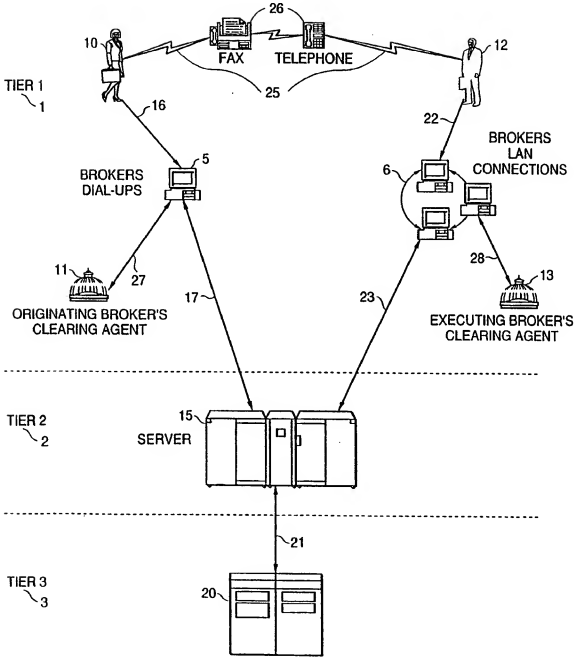
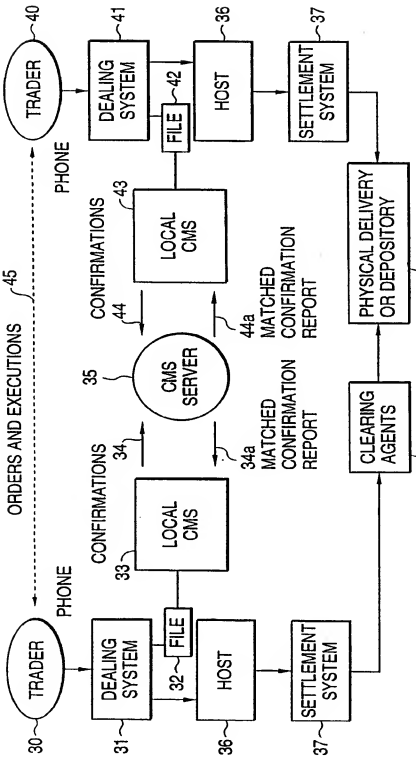

26
10
FAX
TELEPHONE
12
TIER 1
1
25
16
22
BROKERS
LAN
CONNECTIONS
5
BROKERS
DIAL-UPS
6
11
27
28
13
17
23
ORIGINATING BROKER'S
CLEARING AGENT
EXECUTING BROKER'S
CLEARING AGENT
TIER 2
2
15
SERVER
21
TIER 3
3
20

FIG. 2A


TRADER
30
PHONE
ORDERS AND EXECUTIONS
45
TRADER
40
PHONE
DEALING SYSTEM
31
FILE
32
HOST
36
CONFIRMATIONS
33
LOCAL CMS
CONFIRMATIONS
34
CMS SERVER
35
34a MATCHED CONFIRMATION REPORT
CONFIRMATIONS
44
LOCAL CMS
43
44a MATCHED CONFIRMATION REPORT
DEALING SYSTEM
41
FILE
42
HOST
36
SETTLEMENT SYSTEM
37
SETTLEMENT SYSTEM
37
CLEARING AGENTS
38
PHYSICAL DELIVERY OR DEPOSITORY
39

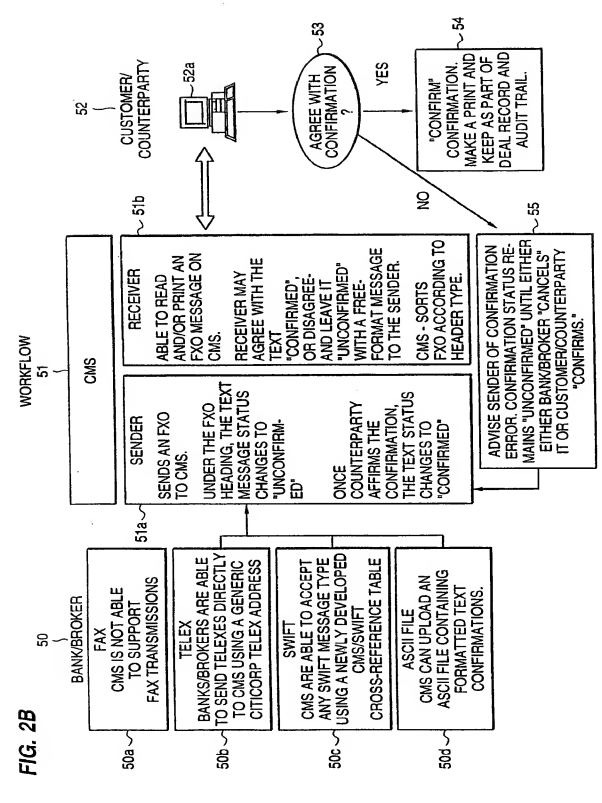

WORKFLOW
51
CMS
BANK/BROKER
50
FAX
CMS IS NOT ABLE TO SUPPORT FAX TRANSMISSIONS
50a
TELEX
BANKS/BROKERS ARE ABLE TO SEND TELEXES DIRECTLY TO CMS USING A GENERIC CITICORP TELEX ADDRESS
50b
SWIFT
CMS ARE ABLE TO ACCEPT ANY SWIFT MESSAGE TYPE USING A NEWLY DEVELOPED CMS/SWIFT CROSS-REFERENCE TABLE
50c
ASCII FILE
CMS CAN UPLOAD AN ASCII FILE CONTAINING FORMATTED TEXT CONFIRMATIONS.
50d
SENDER
51a
SENDS AN FXO TO CMS.
UNDER THE FXO HEADING, THE TEXT MESSAGE STATUS CHANGES TO "UNCONFIRMED"
ONCE COUNTERPARTY AFFIRMS THE CONFIRMATION, THE TEXT STATUS CHANGES TO "CONFIRMED"
RECEIVER
51b
ABLE TO READ AND/OR PRINT AN FXO MESSAGE ON CMS.
RECEIVER MAY AGREE WITH THE TEXT "CONFIRMED", OR DISAGREE AND LEAVE IT "UNCONFIRMED" WITH A FREE-FORMAT MESSAGE TO THE SENDER.
CMS - SORTS FXO ACCORDING TO HEADER TYPE.
ADVISE SENDER OF CONFIRMATION ERROR. CONFIRMATION STATUS REMAINS "UNCONFIRMED" UNTIL EITHER BANK/BROKER "CANCELS" IT OR CUSTOMER/COUNTERPARTY "CONFIRMS."
55
CUSTOMER/ COUNTERPARTY
52
52a
AGREE WITH CONFIRMATION ?
53
YES
NO
"CONFIRM" CONFIRMATION. MAKE A PRINT AND KEEP AS PART OF DEAL RECORD AND AUDIT TRAIL.
54

FIG. 2B

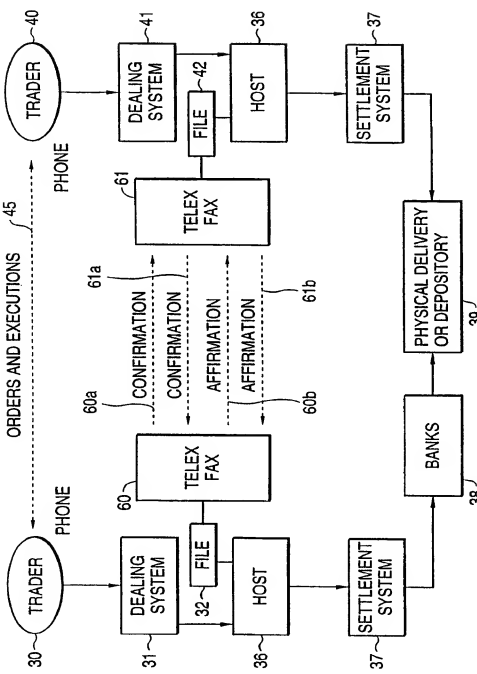


FIG. 2C
(PRIOR ART)

FIG. 2D

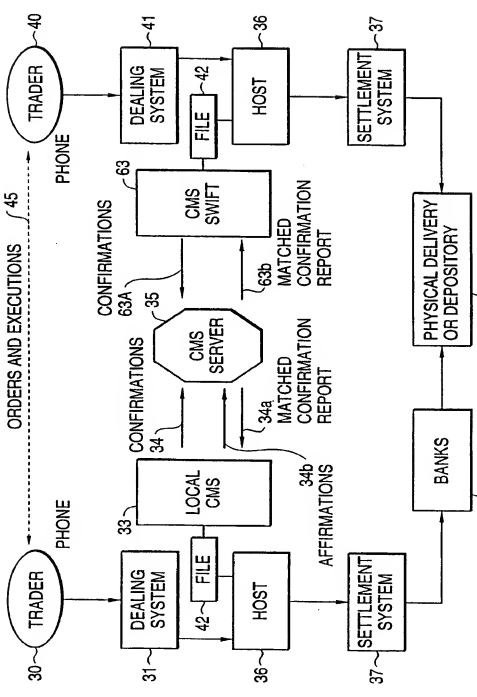

TRADER
30
PHONE
ORDERS AND EXECUTIONS
45
TRADER
40
PHONE
DEALING SYSTEM
31
FILE
42
HOST
36
LOCAL CMS
33
CONFIRMATIONS
34
CMS SERVER
35
CONFIRMATIONS
63A
CMS SWIFT
63
DEALING SYSTEM
41
FILE
42
HOST
36
34a MATCHED CONFIRMATION REPORT
63b MATCHED CONFIRMATION REPORT
34b AFFIRMATIONS
SETTLEMENT SYSTEM
37
BANKS
38
PHYSICAL DELIVERY OR DEPOSITORY
39
SETTLEMENT SYSTEM
37

FIG. 2E

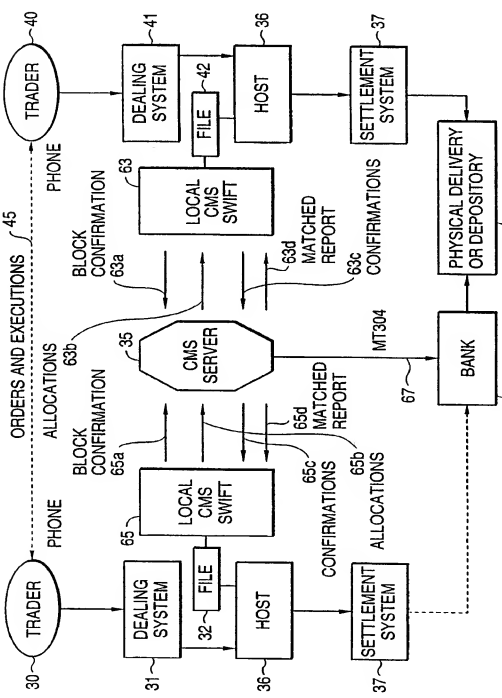

TRADER
30
PHONE
ORDERS AND EXECUTIONS
45
ALLOCATIONS
63b
BLOCK CONFIRMATION
65a
DEALING SYSTEM
31
FILE
32
HOST
36
LOCAL CMS SWIFT
65
CMS SERVER
35
BLOCK CONFIRMATION
63a
LOCAL CMS SWIFT
63
DEALING SYSTEM
41
FILE
42
HOST
36
TRADER
40
PHONE
CONFIRMATIONS
65c
ALLOCATIONS
65b
65d MATCHED REPORT
63d MATCHED REPORT
63c CONFIRMATIONS
MT304
67
BANK
38
SETTLEMENT SYSTEM
37
SETTLEMENT SYSTEM
37
PHYSICAL DELIVERY OR DEPOSITORY
39

FIG. 3

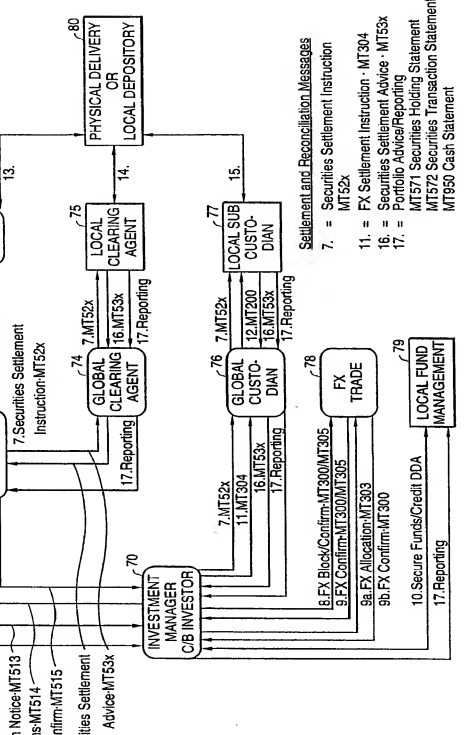

1.Order:MT502
2.Order:MT502
3.Order
4.Order Fill
5.Trade Confirm:MT518
5.Trade Confirm:MT518
6a.Execution Notice:MT513
6b.Allocations:MT514
6c.Trade Confirm:MT515
16.Securities Settlement
Advice:MT53x
7.Securities Settlement
Instruction:MT52x
7.MT52x
16.MT53x
17.Reporting
7.MT52x
11.MT304
16.MT53x
17.Reporting
7.MT52x
12.MT200
16.MT53x
17.Reporting
8.FX Block/Confirm:MT300/MT305
9.FX Confirm:MT300/MT305
9a.FX Allocation:MT303
9b.FX Confirm:MT300
10.Secure Funds/Credit DDA
17.Reporting
13.
14.
15.
70
71
72
73
74
75
76
77
78
79
80
INVESTMENT MANAGER C/B INVESTOR
BROKER
LOCAL BROKER
STOCK EXCHANGE OR MARKET MAKER
GLOBAL CLEARING AGENT
LOCAL CLEARING AGENT
PHYSICAL DELIVERY OR LOCAL DEPOSITORY
GLOBAL CUSTO-DIAN
LOCAL SUB CUSTO-DIAN
FX TRADE
LOCAL FUND MANAGEMENT
Settlement and Reconciliation Messages
7. = Securities Settlement Instruction MT52x
11. = FX Settlement Instruction - MT304
16. = Securities Settlement Advice - MT53x
17. = Portfolio Advice/Reporting
MT571 Securities Holding Statement
MT572 Securities Transaction Statement
MT950 Cash Statement

FIG. 4

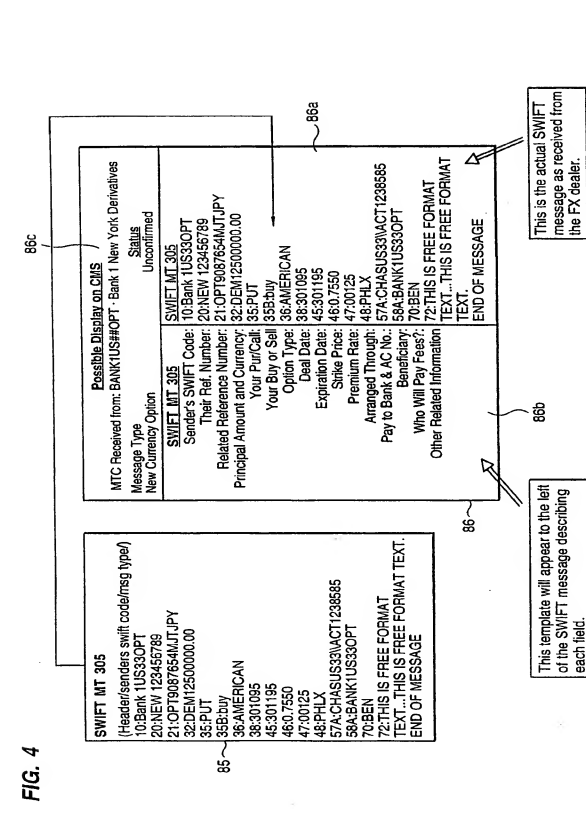

SWIFT MT 305
(Header/senders swift code/msg type/)
:10:Bank 1US33OPT
:20:NEW 123456789
:21:OPT9087654MJTJPY
:32:DEM12500000.00
:35:PUT
:35B:buy
:36:AMERICAN
:38:301095
:45:301195
:46:0.7550
:47:00125
:48:PHLX
:57A:CHASUS33\ACT1238585
:58A:BANK1US33OPT
:70:BEN
:72:THIS IS FREE FORMAT
TEXT...THIS IS FREE FORMAT TEXT.
END OF MESSAGE
85
This template will appear to the left of the SWIFT message describing each field.
86
Possible Display on CMS
MTC Received from: BANK1US##OPT · Bank 1 New York Derivatives
Message Type
New Currency Option
Status
Unconfirmed
SWIFT MT 305
Sender's SWIFT Code:
Their Ref. Number:
Related Reference Number:
Principal Amount and Currency
Your Pur/Call:
Your Buy or Sell
Option Type:
Deal Date:
Expiration Date:
Strike Price:
Premium Rate:
Arranged Through:
Pay to Bank & AC No.:
Beneficiary:
Who Will Pay Fees?:
Other Related Information
SWIFT MT 305
:10:Bank 1US33OPT
:20:NEW 123456789
:21:OPT9087654MJTJPY
:32:DEM12500000.00
:35:PUT
:35B:buy
:36:AMERICAN
:38:301095
:45:301195
:46:0.7550
:47:00125
:48:PHLX
:57A:CHASUS33\ACT1238585
:58A:BANK1US33OPT
:70:BEN
:72:THIS IS FREE FORMAT
TEXT...THIS IS FREE FORMAT
TEXT.
END OF MESSAGE
86a
86b
This is the actual SWIFT message as received from the FX dealer.
86c

FIG. 5

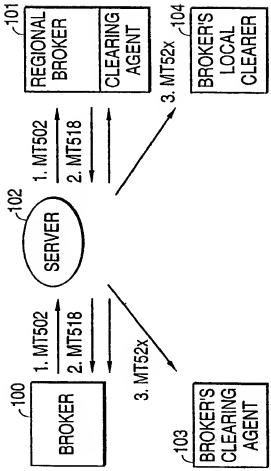

100
BROKER
1. MT502
2. MT518
3. MT52x
102
SERVER
1. MT502
2. MT518
3. MT52x
101
REGIONAL BROKER
CLEARING AGENT
103
BROKER'S CLEARING AGENT
104
BROKER'S LOCAL CLEARER

FIG. 6

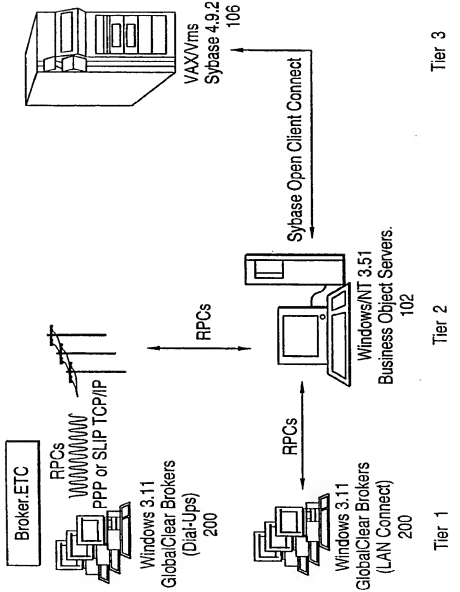

Broker.ETC
RPCs
PPP or SLIP TCP/IP
Windows 3.11
GlobalClear Brokers
(Dial-Ups)
200
RPCs
RPCs
Windows 3.11
GlobalClear Brokers
(LAN Connect)
200
Windows/NT 3.51
Business Object Servers.
102
Sybase Open Client Connect
VAX/Vms
Sybase 4.9.2
106
Tier 1
Tier 2
Tier 3

FIG. 7

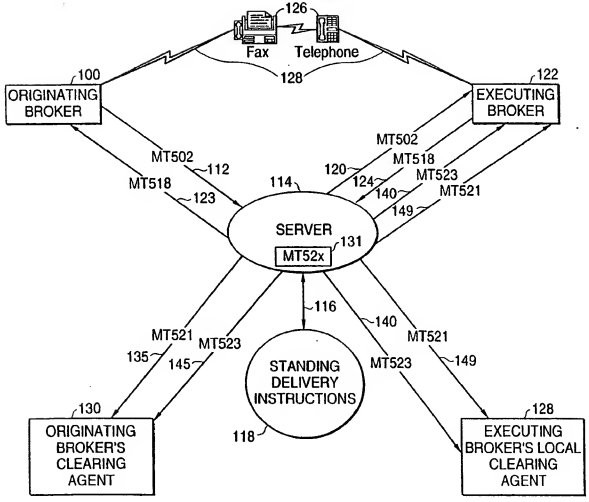

126
Fax
Telephone
128
100
ORIGINATING BROKER
122
EXECUTING BROKER
MT502
MT518
MT523
MT521
112
120
124
140
149
123
114
SERVER
131
MT52x
116
135
145
130
ORIGINATING BROKER'S CLEARING AGENT
STANDING DELIVERY INSTRUCTIONS
118
128
EXECUTING BROKER'S LOCAL CLEARING AGENT

FIG. 8

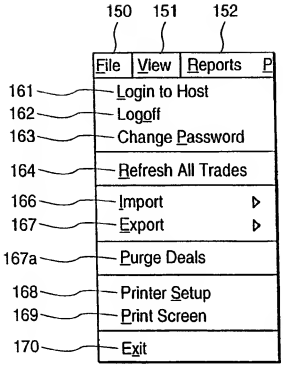
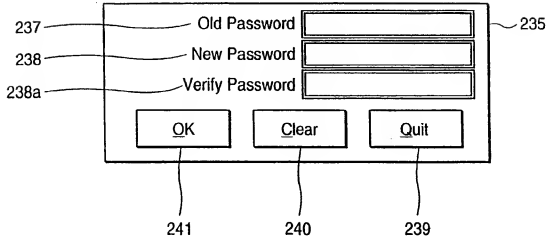

150
151
152
File
View
Reports
P
161
Login to Host
162
Logoff
163
Change Password
164
Refresh All Trades
166
Import
167
Export
167a
Purge Deals
168
Printer Setup
169
Print Screen
170
Exit

FIG. 10A


237
Old Password
235
238
New Password
238a
Verify Password
OK
Clear
Quit
241
240
239

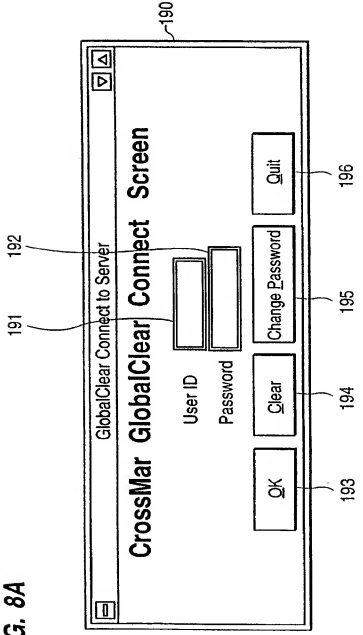
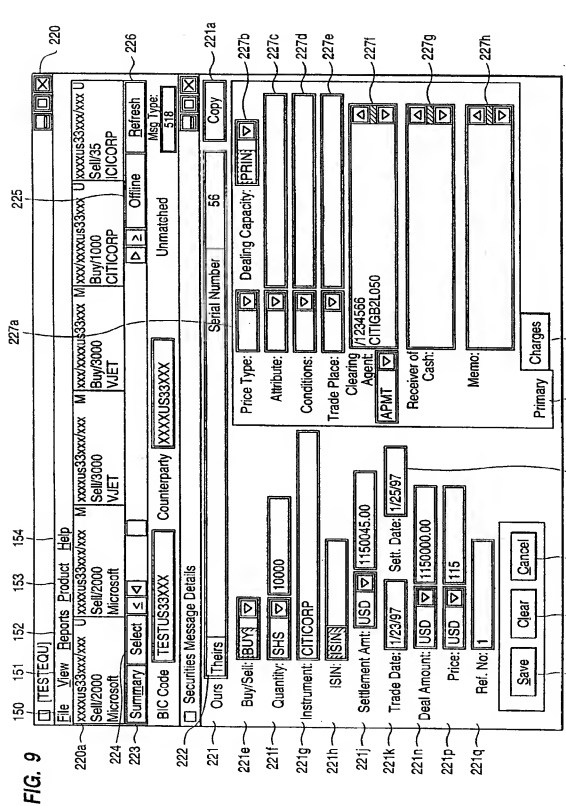

190
GlobalClear Connect to Server
CrossMar GlobalClear Connect Screen
User ID
Password
OK
Clear
Change Password
Quit
191
192
193
194
195
196

FIG. 8A

FIG. 9



SUBSTITUTE SHEET (RULE 26)

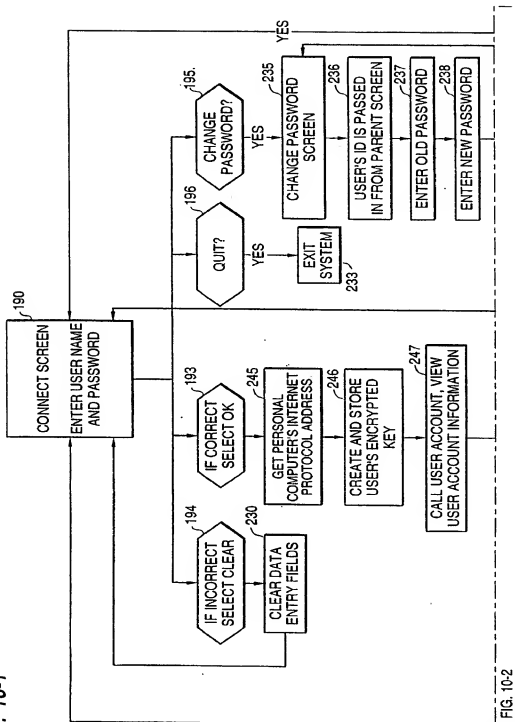

CONNECT SCREEN
190
ENTER USER NAME AND PASSWORD
IF CORRECT SELECT OK
193
GET PERSONAL COMPUTER'S INTERNET PROTOCOL ADDRESS
245
CREATE AND STORE USER'S ENCRYPTED KEY
246
CALL USER ACCOUNT, VIEW USER ACCOUNT INFORMATION
247
IF INCORRECT SELECT CLEAR
194
CLEAR DATA ENTRY FIELDS
230
QUIT?
196
YES
EXIT SYSTEM
233
CHANGE PASSWORD?
195
YES
CHANGE PASSWORD SCREEN
235
USER'S ID IS PASSED IN FROM PARENT SCREEN
236
ENTER OLD PASSWORD
237
ENTER NEW PASSWORD
238
YES
TO FIG. 10-2

FIG. 10-1

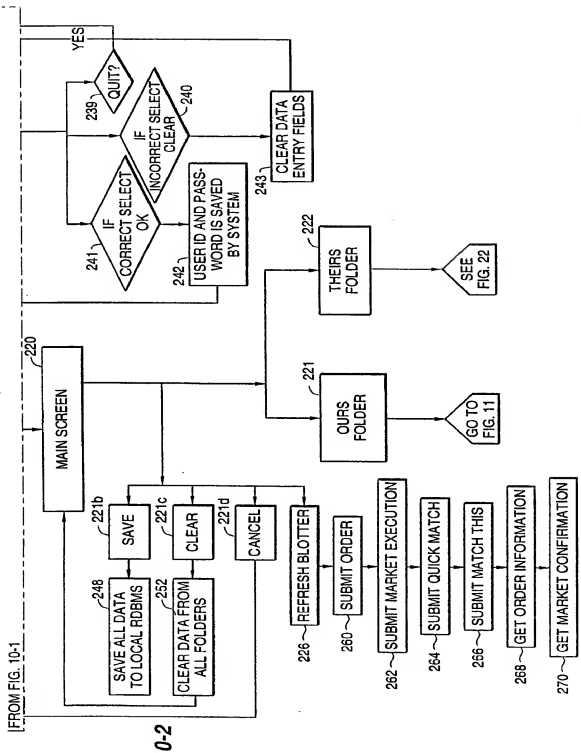

FROM FIG. 10-1
MAIN SCREEN
220
SAVE
221b
CLEAR
221c
CANCEL
221d
SAVE ALL DATA TO LOCAL RDBMS
248
CLEAR DATA FROM ALL FOLDERS
252
REFRESH BLOTTER
226
SUBMIT ORDER
260
SUBMIT MARKET EXECUTION
262
SUBMIT QUICK MATCH
264
SUBMIT MATCH THIS
266
GET ORDER INFORMATION
268
GET MARKET CONFIRMATION
270
OURS FOLDER
221
GO TO FIG. 11
THEIRS FOLDER
222
SEE FIG. 22
IF CORRECT SELECT OK
241
USER ID AND PASSWORD IS SAVED BY SYSTEM
242
IF INCORRECT SELECT CLEAR
240
CLEAR DATA ENTRY FIELDS
243
QUIT?
239
YES

FIG. 10-2

FIG. 11

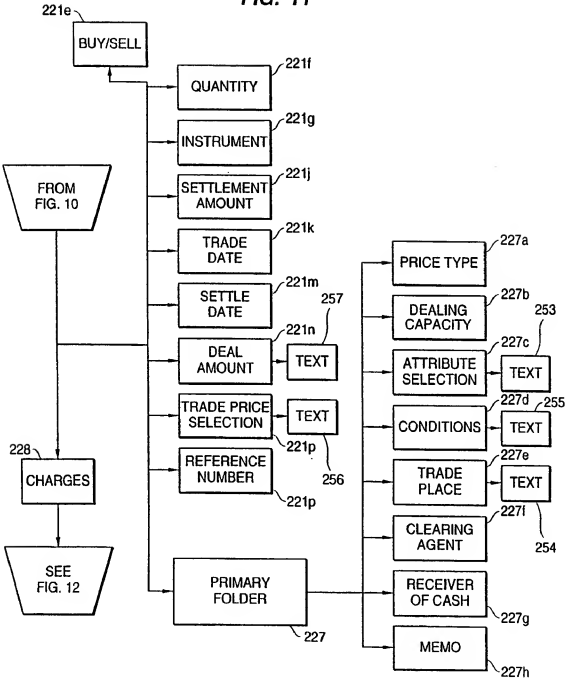

221e
BUY/SELL
221f
QUANTITY
221g
INSTRUMENT
221j
SETTLEMENT AMOUNT
221k
TRADE DATE
221m
SETTLE DATE
257
221n
DEAL AMOUNT
TEXT
TRADE PRICE SELECTION
TEXT
221p
REFERENCE NUMBER
221p
256
FROM FIG. 10
228
CHARGES
SEE FIG. 12
PRIMARY FOLDER
227
227a
PRICE TYPE
227b
DEALING CAPACITY
253
227c
ATTRIBUTE SELECTION
TEXT
227d
255
CONDITIONS
TEXT
227e
TRADE PLACE
TEXT
227f
CLEARING AGENT
254
RECEIVER OF CASH
227g
MEMO
227h

FIG. 12

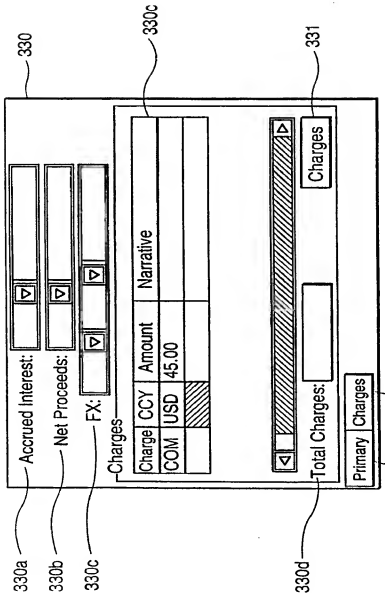

330
330c
331
Accrued Interest:
Net Proceeds:
FX:
Charges
Charge CCY Amount Narrative
COM USD 45.00
Charges
Total Charges:
Primary Charges
330a
330b
330c
330d
227
228

FIG. 13

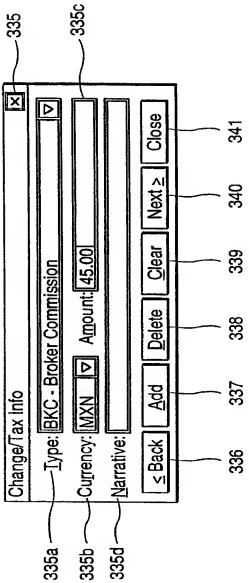

335
335c
Change/Tax Info
Type: BKC - Broker Commission
Currency: MXN
Amount: 45.00
Narrative:
< Back
Add
Delete
Clear
Next >
Close
335a
335b
335d
336
337
338
339
340
341

FIG. 14

375a
375b
375c
375d
375e
375f
375g
375h
375j
375k
375m
375
Trade Summary
Our Deals (6)
Our Entity
Counterparty
Entity
Status
Fund
B/S
C/P
Style
Strike Price
Currency
Currency 2
xxx xxxxxUS33 xxx Matched BUY PUT E 0.5897 USD1000000 DEM169577.7
xxx xxxxxUS33 xxx Matched SELL CALL E .998 USD4000 DEM3900
xxx xxxxxUS33 xxx UnMatch BUY PUT E 1.55 GBP3000 USD5500
xxx xxxxxUS33 xxx UnMatch BUY PUT E 0.5897 USD1000 DEM590
xxx xxxxxUS33 xxx UnMatch BUY PUT E 1.2 USD7000 DEM80000
xxx xxxxxUS33 xxx UnMatch SELL PUT E 0.5897 USD1000000 HKD169577.7
Their Deals (4)
Our Entity
Counterparty
Entity
Status
Fund
B/S
C/P
Style
Strike Price
Currency
Currency 2
xxx xxxxxUS33 xxx Matched SEL PUT E 0.5897 USD1000000 DEM169577.7
xxx xxxxxUS33 xxx Matched BUY CAL E .998 USD4000 DEM3900
xxx xxxxxUS33 xxx UnMatche SEL PUT E 1.2 GBP3000 DEM80000
xxx xxxxxUS33 xxx UnMatche SEL PUT E 0.5897 USD1000 DEM5900
Suggest
4
Differences
Refresh
Exit
376
380
377
378
379

FIG. 15

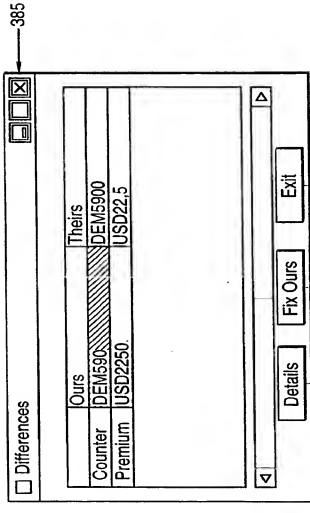
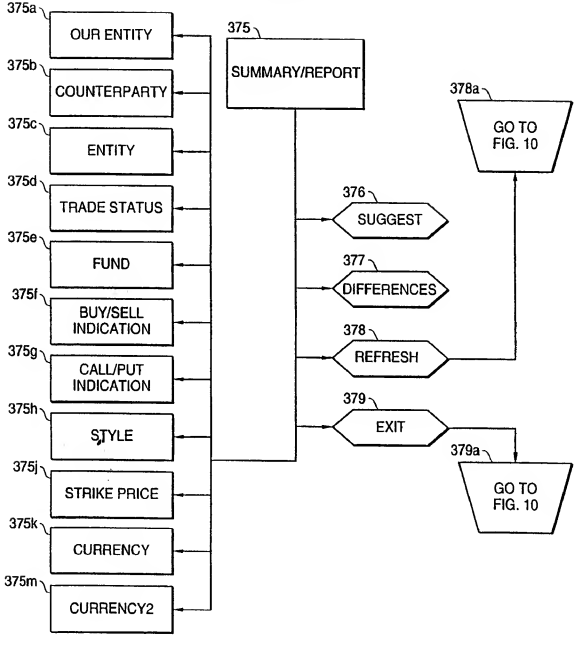

385
Differences
Ours
Theirs
Counter
DEM5900
DEM5900
Premium
USD2250
USD22.5
Details
Fix Ours
Exit
387
386
388

FIG. 16


375a
OUR ENTITY
375b
COUNTERPARTY
375c
ENTITY
375d
TRADE STATUS
375e
FUND
375f
BUY/SELL INDICATION
375g
CALL/PUT INDICATION
375h
STYLE
375j
STRIKE PRICE
375k
CURRENCY
375m
CURRENCY2
375
SUMMARY/REPORT
376
SUGGEST
377
DIFFERENCES
378
REFRESH
379
EXIT
378a
GO TO FIG. 10
379a
GO TO FIG. 10

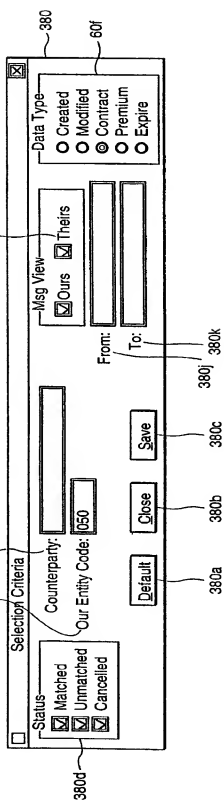

380
60f
Data Type
Created
Modified
Contract
Premium
Expire
380e
Msg View
Ours
Theirs
From:
To:
380j
380k
Save
380c
Close
380b
Default
380a
380g
Counterparty:
Our Entity Code:
1050
380h
Selection Criteria
Status
Matched
Unmatched
Cancelled
380d

FIG. 17

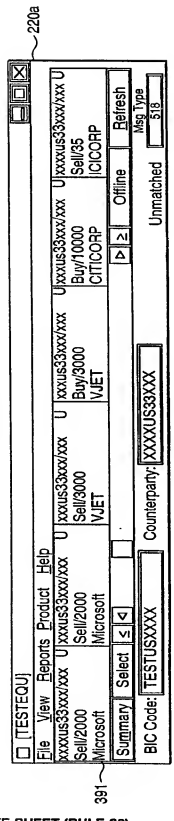

220a
[TESTEQU]
File View Reports Product Help
xxxxus33xxx/xxx U xxxus33xxx/xxx U xxxus33xxx/xxx U xxxxus33xxx/xxx U xxxxus33xxx/xxx U
Sell/2000 Sell/2000 Sell/3000 Buy/3000 Buy/10000 Sell/35
Microsoft Microsoft VJET VJET CITICORP CICORP
391
Summary Select
Offline Refresh
BIC Code: TESTUSXXXX
Counterparty: XXXXUS33XXX
Unmatched
Msg Type
316

FIG. 18

FIG. 19

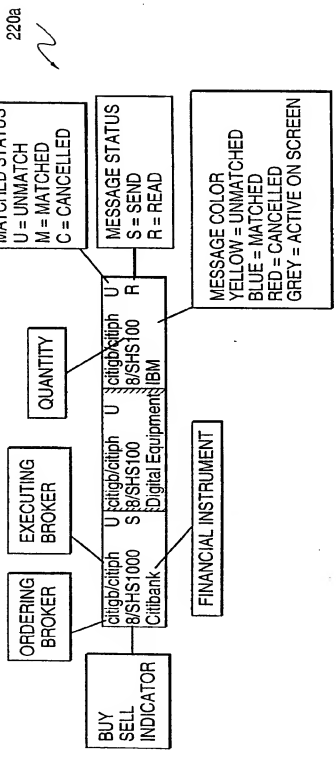

220a
MATCHED STATUS
U = UNMATCH
M = MATCHED
C = CANCELLED
MESSAGE STATUS
S = SEND
R = READ
MESSAGE COLOR
YELLOW = UNMATCHED
BLUE = MATCHED
RED = CANCELLED
GREY = ACTIVE ON SCREEN
ORDERING BROKER
EXECUTING BROKER
QUANTITY
BUY SELL INDICATOR
FINANCIAL INSTRUMENT
citigb/citiph 8/SHS1000 Citibank
U citigb/citiph S 8/SHS100 Digital Equipment
U citigb/citiph 8/SHS100 IBM
U
R

FIG. 20

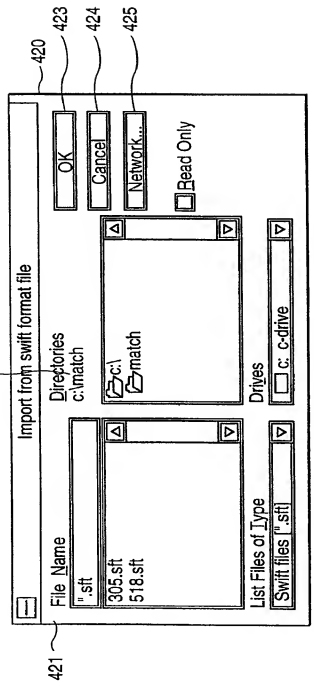

420
423
424
425
422
Import from swift format file
OK
Cancel
Network...
Read Only
Directories
c:\match
c:\
match
File Name
*.sft
305.sft
518.sft
Drives
c: c-drive
List Files of Type
Swift files (*.sft)
421

FIG. 21

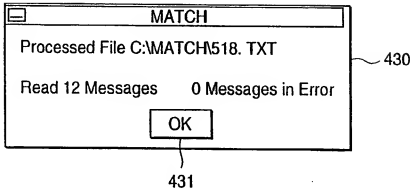


FIG. 22

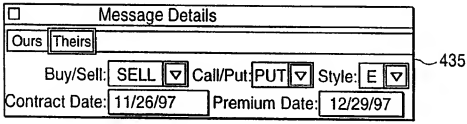


FIG. 23

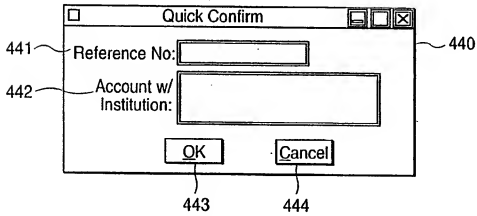


FIG. 24

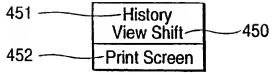


FIG. 25

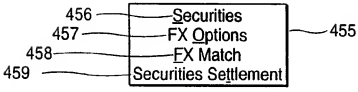


FIG. 26

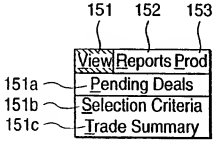
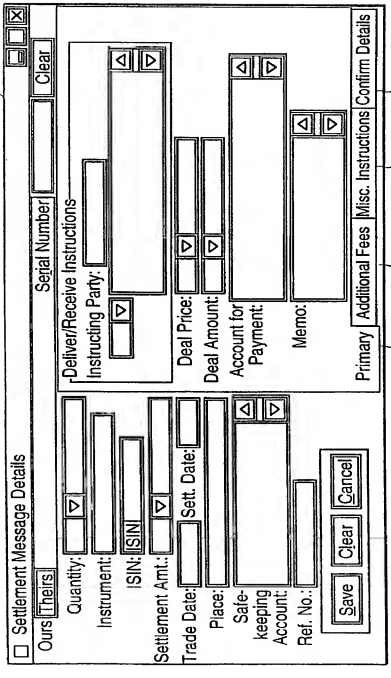


FIG. 27A


500
Settlement Message Details
Ours
Theirs
Serial Number
Clear
Quantity:
Instrument:
ISIN:
ISIN
Settlement Amt.:
Trade Date:
Sett. Date:
Place:
Safe-keeping Account:
Ref. No.:
Save
Clear
Cancel
Deliver/Receive Instructions
Instructing Party:
Deal Price:
Deal Amount:
Account for Payment:
Memo:
Primary
Additional Fees
Misc. Instructions
Confirm Details
500a
500b
500c
500d

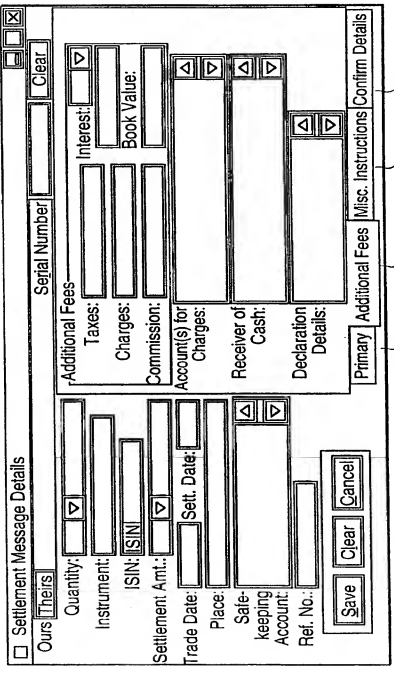

Settlement Message Details
Ours
Theirs
Serial Number
Clear
Quantity:
Instrument:
ISIN:
ISIN
Settlement Amt.:
Trade Date:
Sett. Date:
Place:
Safe-keeping Account:
Ref. No.:
Save
Clear
Cancel
Additional Fees
Taxes:
Charges:
Commission:
Interest:
Book Value:
Account(s) for Charges:
Receiver of Cash:
Declaration Details:
Primary
Additional Fees
Misc. Instructions
Confirm Details
500
500a
500b
500c
500d

FIG. 27B

FIG. 27C

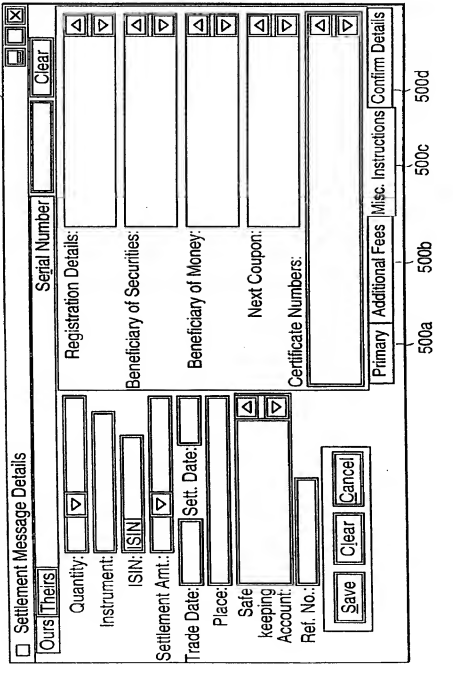

500
Settlement Message Details
Ours
Theirs
Serial Number
Clear
Quantity:
Instrument:
ISIN:
ISIN
Settlement Amt.:
Trade Date:
Sett. Date:
Place:
Safe keeping Account:
Ref. No.:
Save
Clear
Cancel
Registration Details:
Beneficiary of Securities:
Beneficiary of Money:
Next Coupon:
Certificate Numbers:
Primary
Additional Fees
Misc. Instructions
Confirm Details
500a
500b
500c
500d

FIG. 27D

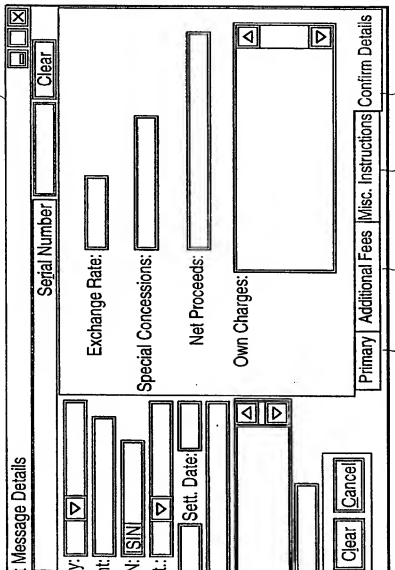

500
Settlement Message Details
Ours
Theirs
Serial Number
Clear
Quantity:
Instrument:
ISIN:
ISIN
Settlement Amt.:
Trade Date:
Sett. Date:
Place:
Safe keeping Account:
Ref. No.:
Exchange Rate:
Special Concessions:
Net Proceeds:
Own Charges:
Save
Clear
Cancel
Primary
Additional Fees
Misc. Instructions
Confirm Details
500a
500b
500c
500d

FIG. 28A

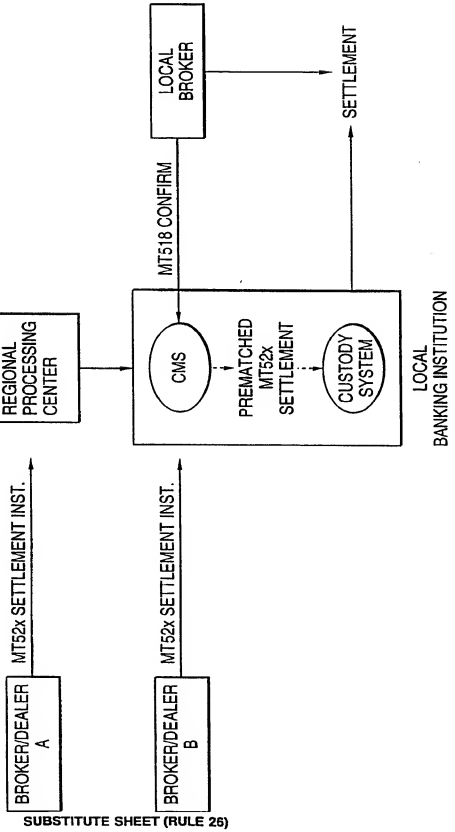

BROKER/DEALER A
MT52x SETTLEMENT INST.
BROKER/DEALER B
MT52x SETTLEMENT INST.
REGIONAL PROCESSING CENTER
CMS
PREMATCHED MT52x SETTLEMENT
CUSTODY SYSTEM
LOCAL BANKING INSTITUTION
MT518 CONFIRM
LOCAL BROKER
SETTLEMENT

FIG. 28B

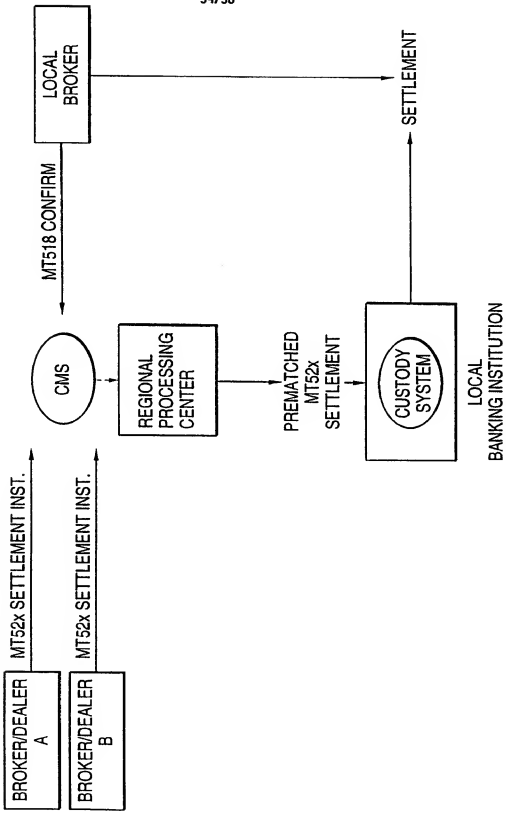

BROKER/DEALER A
BROKER/DEALER B
MT52x SETTLEMENT INST.
MT52x SETTLEMENT INST.
CMS
REGIONAL PROCESSING CENTER
PREMATCHED MT52x SETTLEMENT
CUSTODY SYSTEM
LOCAL BANKING INSTITUTION
MT518 CONFIRM
LOCAL BROKER
SETTLEMENT

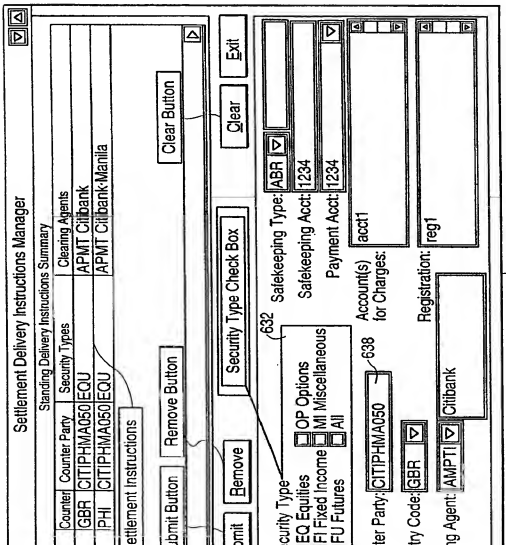
FIG. 28C

SETTLEMENT STATUS	CONFIRM EXISTS STATUS = UNMATCHED	CONFIRM EXISTS STATUS = MATCHED (VIA A MT518)	CONFIRM EXISTS STATUS = CANCEL	CONFIRM DOES NOT EXIST
NEW (MT52X)	IF TRANSACTION MATCHES: SET CONFIRM TO PREMATCHED SET FIELD 72 ON SETTLEMENT TO: /MATCHED /CROSSMAR (CODE 93) IF TRANSACTION DOES NOT MATCH LEAVE CONFIRM AS UNMATCHED SET FIELD 72 ON SETTLEMENT TO: /CUNMATCH/ AND SUPPLY RELEVANT CODES	IF TRANSACTION MATCHES: CHANGE CONFIRM TO PREMATCHED SET FIELD 72 ON SETTLEMENT TO: SET FIELD 72 ON SETTLEMENT TO: /MATCHED/CROSS-MAR (CODE 93) IF TRANSACTION DOES NOT MATCH: LEAVE CONFIRM AS MATCHED SET FIELD 72 ON SETTLEMENT TO: /CUNMATCH/ AND SUPPLY RELEVANT CODES	IF TRANSACTION MATCHES: LEAVE CONFIRM AS CANCEL SET FIELD 72 ON SETTLEMENT TO: ATTEMPTED PRE-MATCH FAILED (CODE 92) IF TRANSACTION DOES NOT MATCH LEAVE CONFIRM AS CANCEL SET FIELD 72 ON SETTLEMENT TO: ATTEMPTED PRE-MATCH FAILED (CODE 92)	IF TRANSACTION MATCHES: *CASE DOES NOT EXIST* IF TRANSACTION DOES NOT MATCH: SET FIELD 72 ON SETTLEMENT TO: ATTEMPTED PRE-MATCH FAILED (CODE 95)
CANCEL (MT592)	CANNOT MATCH MT592 WITH UNMATCHED MT518	IF TRANSACTION MATCHES: CHANGE CONFIRM TO UNMATCHED DO NOT CHANGE MT592 IF TRANSACTION DOES NOT MATCH: LEAVE CONFIRM AS MATCHED DO NOT CHANGE MT592	CANNOT MATCH MT592 WITH A CANCELED MT518	CANNOT MATCH MT592 WITH A NON EXISTENT MT518
AMEND	SETTLEMENT INSTRUCTIONS CANNOT BE SENT WITH AMEND STATUS			

FIG. 28D

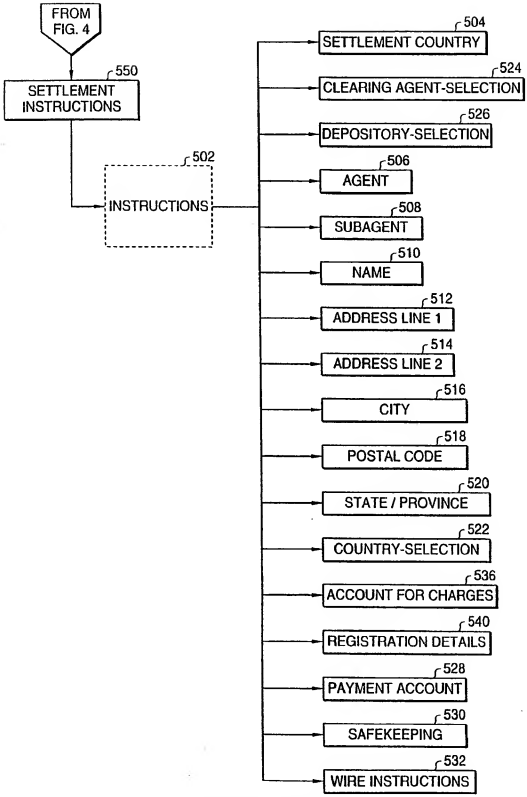
CONFIRM MESSAGE STATUS	SETTLEMENT EXISTS STATUS = UNMATCHED	SETTLEMENT EXISTS STATUS = CANCEL	SETTLEMENT EXISTS STATUS = MATCHED	SETTLEMENT DOES NOT EXIST
NEW	IF TRANSACTION MATCHES: SET CONFIRM TO PREMATCHED SET FIELD 72 ON SETTLEMENT TO: /MATCHED /CROSSMAR (CODE 93) IF TRANSACTION DOES NOT MATCH: LEAVE CONFIRM AS UNMATCHED LEAVE SETTLEMENT AS UNMATCHED	CANNOT MATCH NEW CONFIRMS TO CANCELS (MT592)	CANNOT MATCH A NEW CONFIRM WITH A MATCHED SETTLEMENT	*CASE DOES NOT EXIST*
AMEND	SAME AS NEW	SAME AS NEW	CANNOT AMEND A MATCHED A CONFIRM WITH A MATCHED SETTLEMENT	SAME AS NEW
CANCEL	IF CONFIRM EXISTS, SET CONFIRM TO CANCEL DO NOT ATTEMPT TO PREMATCH WITH SETTLEMENT	IF CONFIRM EXISTS, SET CONFIRM TO CANCEL CANNOT MATCH CANCEL CONFIRMS TO CANCELS (MT592)	IF CONFIRM EXISTS, SET CONFIRM TO CANCEL SET SETTLEMENT TO UNMATCHED	IF CONFIRM EXISTS, SET CONFIRM TO CANCEL *CASE DOES NOT EXIST*
MATCHED	CONFIRMS CANNOT BE SENT WITH MATCHED STATUS			

FIG. 29


Settlement Delivery Instructions Manager
Standing Delivery Instructions Summary
Counter
Counter Party
Security Types
Clearing Agents
GBR
CITIPHMA050
EQU
APMT Citibank
PHI
CITIPHMA050
EQU
APMT Citibank-Manila
Settlement Instructions
Submit Button
Remove Button
Clear Button
Submit
Remove
Security Type Check Box
Clear
Exit
632
Security Type
EQ Equities
FI Fixed Income
FU Futures
OP Options
MI Miscellaneous
All
Safekeeping Type:
ABR
Safekeeping Acct:
1234
Payment Acct:
1234
638
Counter Party:
CITIPHMA050
Account(s) for Charges:
acct1
Country Code:
GBR
Registration:
reg1
Clearing Agent:
AMPTI
Citibank
550

38/38

FIG. 30


FROM FIG. 4
550
SETTLEMENT INSTRUCTIONS
502
INSTRUCTIONS
504
SETTLEMENT COUNTRY
524
CLEARING AGENT-SELECTION
526
DEPOSITORY-SELECTION
506
AGENT
508
SUBAGENT
510
NAME
512
ADDRESS LINE 1
514
ADDRESS LINE 2
516
CITY
518
POSTAL CODE
520
STATE / PROVINCE
522
COUNTRY-SELECTION
536
ACCOUNT FOR CHARGES
540
REGISTRATION DETAILS
528
PAYMENT ACCOUNT
530
SAFEKEEPING
532
WIRE INSTRUCTIONS

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/12232

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :G06F 17/60
US CL :705/37

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 235/379; 395/200.33; 705/30,35,37

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

None

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

None

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,903,201 A (WAGNER) 20 February 1990, see abstract.	1-33
Y	US 4,980,826 A (WAGNER) 25 December 1990, see abstract.	1-33
A	US 5,038,284 A (KRAMER) 06 August 1991, see abstract.	1-33
Y	US 5,077,665 A (SILVERMAN et al) 31 December 1991, see abstract.	1-33
Y	US 5,136,501 A (SILVERMAN et al) 04 August 1992, see abstract.	1-33
Y	US 5,517,406 A (HARRIS et al) 14 May 1996, see abstract.	1-33

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
15 AUGUST 1998	19 OCT 1998
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer EDWARD R. COSIMANO
Facsimile No. (703) 305-3230	Telephone No. (703) 308-9783

Form PCT/ISA/210 (second sheet)(July 1992)*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/12232

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,497,317 A (HAWKINS et al) 05 March 1996, see abstract.	1-33
A, E	US 5,787,402 A (POTTER et al) 28 July 1998, see abstract.	1-33